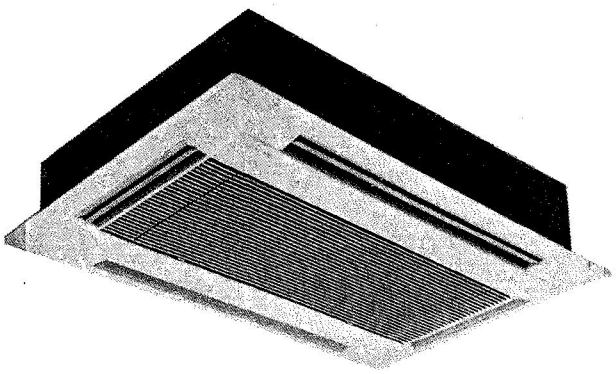
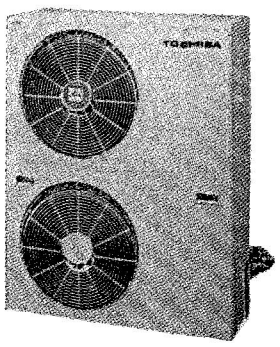
SERVICE DATA
FILE NO. 300-881

TOSHIBA

AIR-CONDITIONER SPLIT (CASSETTE TYPE) HEAT PUMP

RAV-360UH-P/360AH8-P
RAV-460UH-P/460AH8-P





Specifications are subject to change without notice.

Printed in Japan Oct. 1991 (So)

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1. SPECIFICATIONS

ITEM		MODEL	RAV-360UH-P		RAV-460UH-P	
Cooling capacity	*1	kcal/h	7,900		10,050	
		BTU/h	31,600		40,200	
		kW	9.2		11.7	
Heating capacity	*2	kcal/h	8,080		10,650	
		BTU/h	32,300		42,600	
		kW	9.4		12.4	
Power source		Phase	3		3	
		V	380-415		380-415	
		Hz	50		50	
			COOLING	HEATING	COOLING	HEATING
Power consumption		kW	4.2	3.6	5.15	4.9
Power factor		%	89	86	87	88
Running current		A	6.8	6.0	8.5	8.0
Starting current		A	42		50	
Operating noise (SPL)	Indoor unit	dB(A)	50/45/42		52/47/44	
	Outdoor unit	dB(A)	55		55	
Refrigerant	Name of refrigerant		R-22		R-22	
	Charge volume	kg	3.4		3.9	
	Add. volume (20-50m)	g/m	50		50	
Refrigerant control			Capillary tube & Expansion valve		Capillary tube & Expansion valve	
Interconnection pipe	Larger side size	mm (in.)	φ19 (3/4")		φ19 (3/4")	
	Coupler style		Flare		Flare	
	Smaller side size	mm (in.)	φ9.5 (3/8")		φ9.5 (3/8")	
	Coupler style		Flare		Flare	
	Standard length	m (ft)	7.5 (24.6')		7.5 (24.6')	
	Maximum length (of one way) *3	m (ft)	50 (164')		50 (164')	
	Maximum height					
	Indoor unit higher	m (ft)	20 (65'6)		20 (65'6)	
	Outdoor unit higher	m (ft)	50 (164')		50 (164')	
Condensate drain pipe diameter		mm	φ32 (OD)		φ32 (OD)	
INDOOR UNIT Model			**RAV-360UH-P**		**RAV-460UH-P**	
Appearance colour			Black (Zinc galvanized steel + Thermal insulator)		Black (Zinc galvanized steel + Thermal insulator)	
Dimensions	Height	mm (ft-in.)	350 (1'1-25/32)		350 (1'1-25/32)	
	Width	mm (ft-in.)	1,130 (3'8-31/64")		1,130 (3'8-31/64")	
	Depth	mm (ft-in.)	740 (2'5-9/64)		740 (2'5-9/64)	
Net weight		kg (lbs)	53 (116.8)		53 (116.8)	
Heat exchanger type			Finned tube		Finned tube	
Indoor fan type			Centrifugal fan		Centrifugal fan	
Air volume		m^3/h (CFM)	1,680 (989)		1,860 (1,095)	
Fan motor output		W	80		90	
CEILING PANEL Model			**RBC-U460PG(W)-P**		**RBC-U460PG(W)-P**	
Appearance colour			Silky mist (Munsell 1Y8.9/0.5)		Silky mist (Munsell 1Y8.9/0.5)	
Dimensions	Height	mm (ft-in.)	28 ('1-3/32)		28 ('1-3/32)	
	Width	mm (ft-in.)	1,290 (4'2-51/64")		1,290 (4'2-51/64")	
	Depth	mm (ft-in.)	840 (2'9-5/64)		840 (2'9-5/64)	
Net weight		kg (lbs)	7 (15.4)		7 (15.4)	
Air filter			Washable		Washable	
OUTDOOR UNIT Model			**RAV-360AH8-P**		**RAV-460H8-P**	
Appearance colour			Bronze white (Munsell 6Y7.5/1)		Bronze white (Munsell 6Y7.5/1)	
Dimensions	Height	mm (ft-in.)	1,240 (4'13/16")		1,240 (4'13/16")	
	Width	mm (ft-in.)	930 (3'5/8")		930 (3'5/8")	
	Depth	mm (ft-in.)	385 (1'3-5/32")		385 (1'3-5/32")	
Net weight		kg (lbs)	107 (236)		115 (254)	
Heat exchanger type			Finned tube		Finned tube	
Outdoor fan type			Propeller fan		Propeller fan	
Air flow volume		m^3/h (CFM)	6,000 (3,530)		6,000 (3,530)	
Fan motor output		W	39 + 63		39 + 63	
Compressor	Model		YH406JA		YH506JA	
	Output	kW	3.0		3.75	
Protective device			High pressure switch, Fuse Overcurrent relay, Crankcase heater Inner overload relay, Float switch		High pressure switch, Fuse Overcurrent relay, Crankcase heater Inner overload relay, Float switch	

Specifications are subject to change without notice.

Note 1: Cooling capacity is based on the following temperature conditions.
- Indoor air inlet temperature: 27°C DB (80°F DB), 19°C WB (66°F WB)
- Outdoor air inlet temperature: 35°C DB (95°F DB)

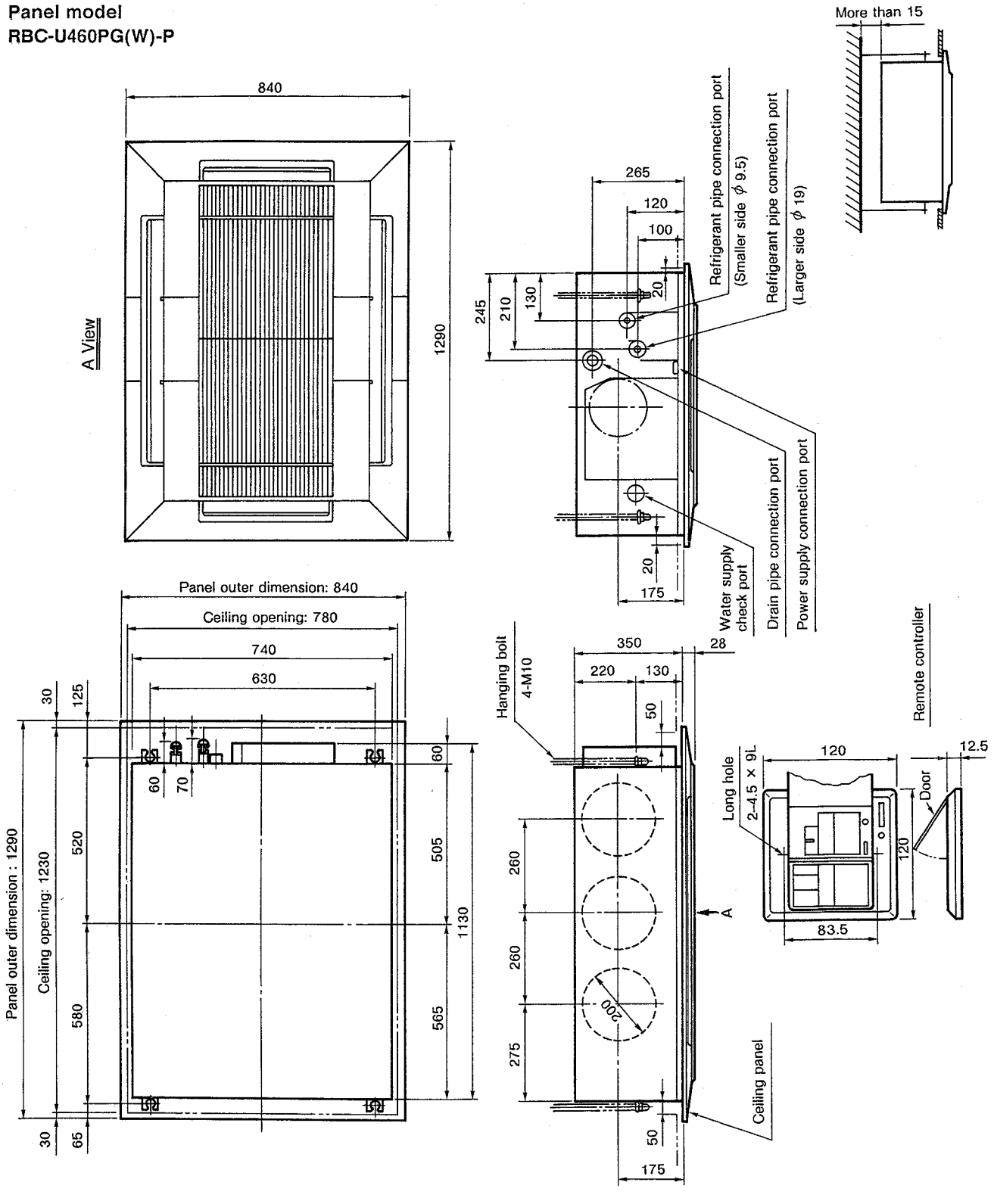
Note 2: Heating capacity is based on the following temperature conditions.
- Indoor air inlet temperature: 20°C DB (68°F DB)
- Outdoor air inlet temperature: 7°C DB (45°F DB), 6°C WB (43°F WB)

Note 3: These mean actual length.

Note 4: Operating range of the units
- Indoor air temperature
  - When cooling
    - Maximum 32°C DB, 22.5°C WB (90°F DB, 73°F WB)
    - Minimum 18°C DB, 15.5°C WB (65°F DB, 60°F WB)
  - When heating
    - Maximum 29°C DB (84°F DB)
    - Minimum 15°C DB (59°F DB)
- Outdoor air temperature
  - When cooling
    - Maximum 43°C DB, 25.5°C WB (109°F DB, 78°F WB)
    - Minimum 10°C DB (50°F DB)
  - When heating
    - Maximum 21°C DB, 15.5°C WB (70°F DB, 60°F WB)
    - Minimum −10°C WB (14°F WB)

2. CONSTRUCTION VIEWS

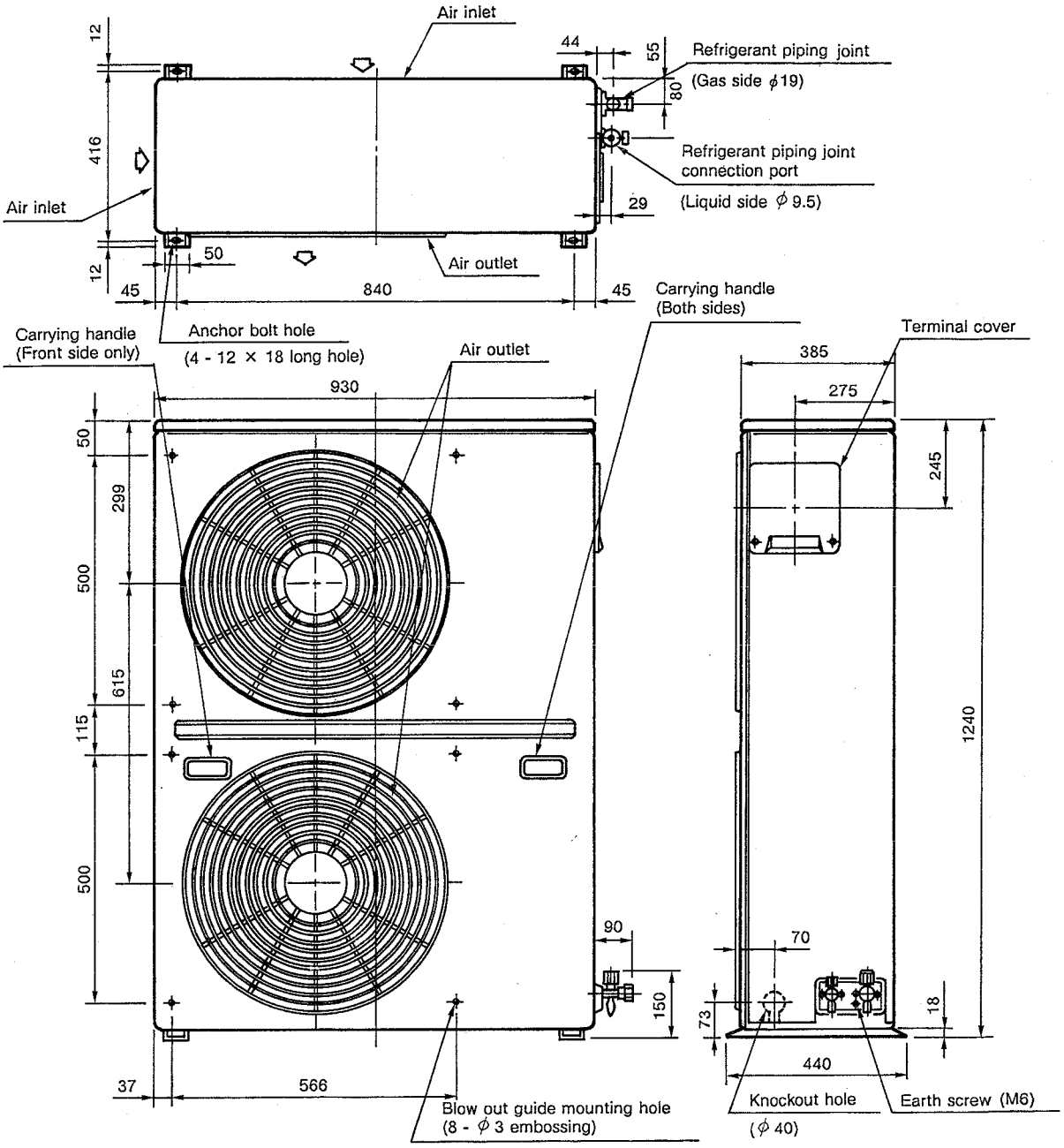
2.1 Indoor unit
Unit model
RAV-360UH-P
RAV-460UH-P
Panel model
RBC-U460PG(W)-P



2.2 Outdoor unit

RAV-360AH8-P

RAV-460AH8-P



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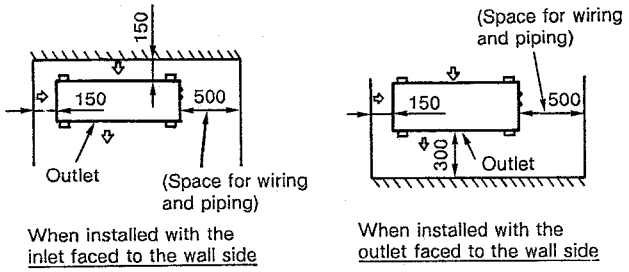
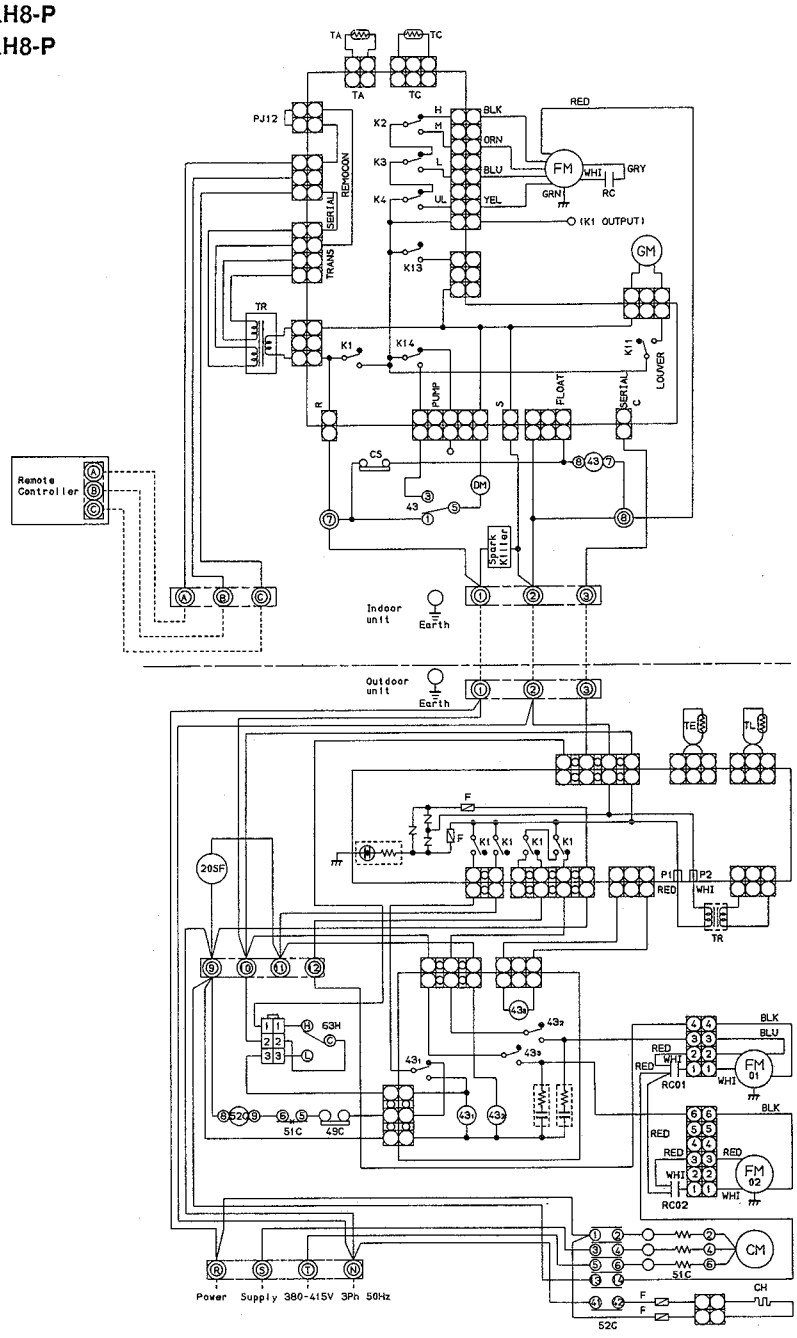


3. WIRING DIAGRAM

RAV-360UH-P/360AH8-P
RAV-460UH-P/460AH8-P



◎ shows terminal block and figures show terminal numbers.
Broken lines show wiring at site.

Don't operate the units with the magnetic contactor pushed.					

Symbol	Name	Symbol	Name	Symbol	Name
20SF	Solenoid Coil	52C	Magnetic Contactor	TR	Transformer
$K_1 \sim K_7$	Relay	FM $_{01, 02}$	Fan Motor (Outdoor)	TA	Sensor
49C	Inner Overload Relay	TL	Sensor	TC	Sensor
51C	Overload Relay	TE	Sensor	43	Relay
43	Relay (Outdoor)	F	Fuse	$K_1 \sim K_{14}$	Relay
63H	High Pressure Switch	TR	Transformer	GM	Geared Motor
CH	Crank Case Heater	FM	Fan Motor	CS	Float Switch
CM	Compressor	RC	Running Capacitor	DM	Drain Motor

4. SPECIFICATIONS OF ELECTRICAL PARTS

RAV-360UH-P/360AH8-P RBC-U460PG(W)-P

NO.	PARTS NAME	TYPE	SPECIFICATIONS
1	Indoor unit fan motor	STF-200-80-4A	Output (Rated) 80W, 4 pole, 1 phase, 200V, 50Hz
2	Running capacitor for indoor fan motor	EVM45M305UJ	AC450V, 3μF
3	Transformer for indoor unit	FT-32-2	187~264V
4	Relay	LY_2F	AC240V, 2ab
5	Geared motor	MT8-3-3	AC240V, 3W
6	Drain pump	PAD-416A23TF	AC230V, 0.2A
7	Float switch	FS-085-003C	AC230V, 0.5A
8	Sensor for room temperature		Maximum input 450mW: °C: 15 / 20 / 25 / 30 / 40; kΩ: 16.1 / 12.6 / 10.0 / 8.0 / 5.2
9	Indoor unit sensor for heat-exchanger temp.	DTN-C103J40	Maximum input 34mA: °C: −12 / 0 / 25 / 50; kΩ: 62.29 / 32.82 / 10.0 / 3.59
10	Compressor	YH406JA	Output (Rated) 3.0kW, 2pole, 3phase, 380/415V, 50Hz Winding resistance 2.88Ω, at 20°C
11	Outdoor unit fan motor	AF-230-63N	Output (Rated) 63W, 6pole, 1phase, 230V, 50Hz Winding resistance (Ω, at 20°C)
		AF-230-39N	Output (Rated) 39W, 6pole, 1phase, 230V, 50Hz Winding resistance (Ω, at 20°C)
12	Running capacitor for outdoor fan motor	EEP2G405HQA114	AC440V, 4μF
13	Magnetic contactor	FMSA-1	AC230V, 50Hz, Tripping current 9A, Resetting manual
14	High pressure switch	HTB-T317	Tripping pressure 30 kg/cm²G Resetting pressure 23 kg/cm²G
15	Solenoid coil	LB60012	AC220~240V
16	Crankcase heater		AC240V, 58W
17	Outdoor unit sensor for heat-exchanger temp.		Maximum input 15.5mA: °C: −12 / 10; kΩ: 67.5 / 21.3
18	Transformer for outdoor unit	FT28-2	187~264V
19	Fuse		3A
20	Sensor for cooling operation in low ambient temperature		Maximum input 34mA: °C: −12 / 0 / 25 / 50; kΩ: 62.29 / 32.82 / 10.0 / 3.59

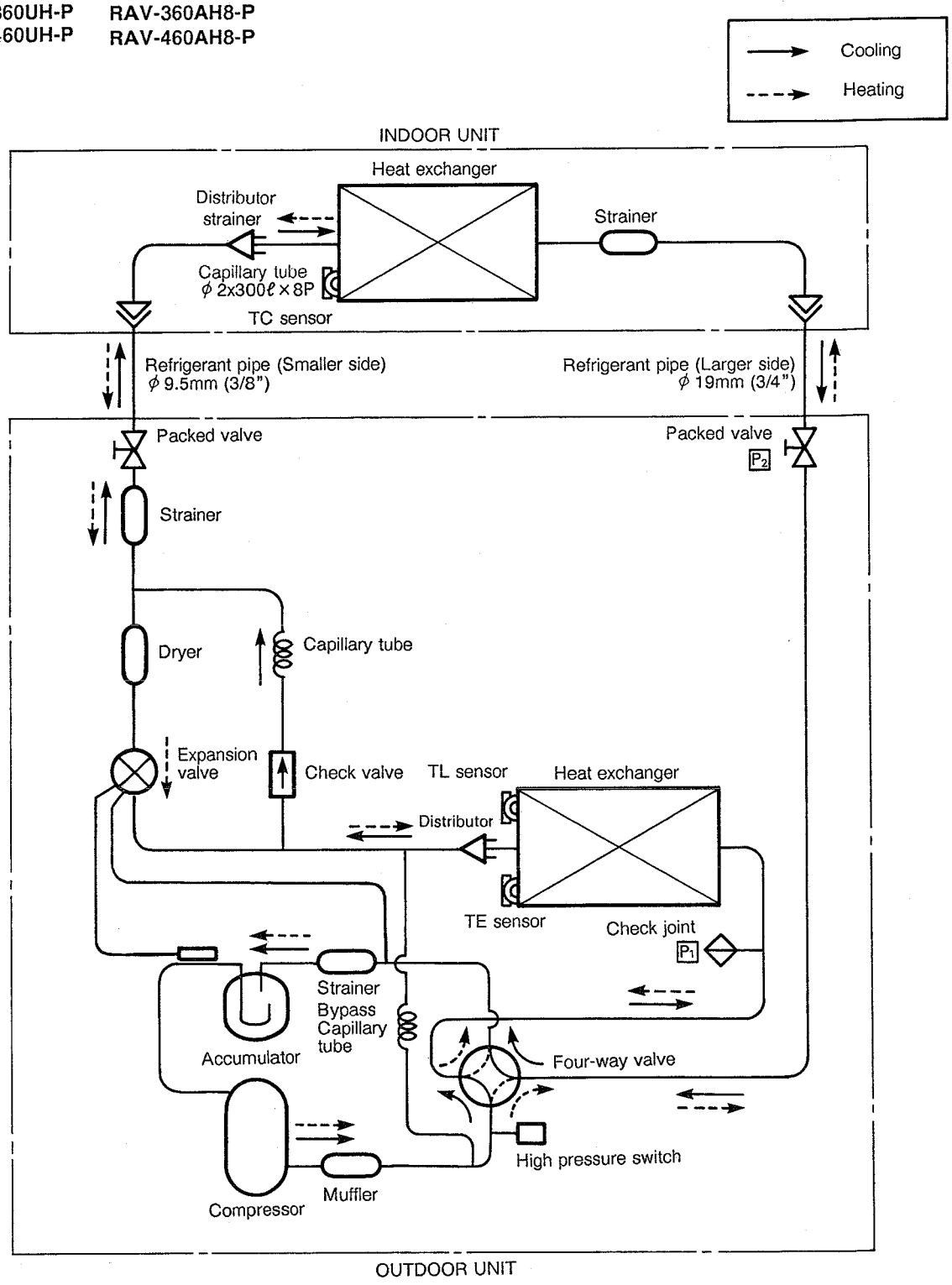
RAV-460UH-P/460AH8-P

Different points from above model are shown below and other specifications are the same as above.

NO.	PARTS NAME	TYPE	SPECIFICATIONS
1	Indoor unit fan motor	STF-200-90-4A	Output (Rated) 90W, 4 pole, 1 phase, 200V, 50 Hz
10	Compressor	YH506JA	Output (Rated) 3.75kW, 2 pole, 3 phase, 380/415V, 50Hz Winding resistance 2.29Ω, at 20°C
13	Magnetic contactor	FMSA-1	AC230V, 50Hz, Tripping 12A, Resetting manual

5. REFRIGERANT PIPING DIAGRAM

Indoor unit **Outdoor unit**
RAV-360UH-P **RAV-360AH8-P**
RAV-460UH-P **RAV-460AH8-P**



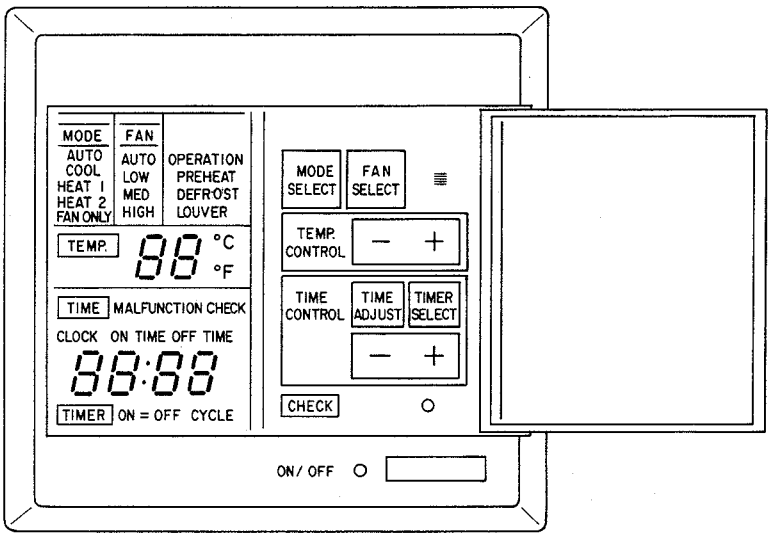
Line Pressure

Model	Capillary tube	Bypass Capillary tube
RAV-360AH8-P	ID φ2.4×650ℓ×1P	ID φ1.7×1,000ℓ×1P
RAV-460AH8-P	ID φ3×600ℓ×1P	ID φ2×1,000ℓ×1P

	Cooling	Heating
P_1	High pressure	Low pressure
P_2	Low pressure	High pressure

6. REMOTE CONTROLLER

6.1 Remote controller



BUTTON	INDICATOR		OPERATION
ON/OFF		LED (RED)	Run/Stop
MODE SELECT	MODE	AUTO COOL HEAT 1 HEAT 2 FAN ONLY	Auto Changeover Cooling Heating Heating (with indoor fan operation at defrost) Fan only
FAN SELECT	FAN	AUTO LOW MED HIGH	Auto Fan Speed Control Low Fan Speed Med. Fan Speed High Fan Speed
— — — —		Louver	Auto Louver
TEMP. CONTROL	TEMP.	88 °C °F	Temperature setting
TIME ADJUST	TIME	(1) CLOCK (2) ON TIME (3) OFF TIME 88:88	(1) Present Time Adjust (2) ON Time Setting (3) OFF Time Setting
TIMER SELECT	TIMER	ON OFF ON → OFF ON ← OFF CYCLE	ON Timer OFF Timer ON → OFF Timer OFF → ON Timer 24H Cycle Timer

6.2 Outline of remote controller's functions

NO.	KEY SWITCH	OUTLINE OF SPECIFICATIONS	REMARKS
1	[ON/OFF]	① When this button is pushed once, the air conditioner is turned on, with the operation lamp coming on. ② If pushed once more, it will be turned off, the operation lamp going off. ③ If pushed for 5 sec. in the mode of turning on the air conditioner, goes into test run mode.	Fan only after 30 min.
2	MODE SELECT	① Each time this button is pushed, the [MODE] setting is changed over cyclically, [AUTO] → [COOL] → [HEAT1] → [HEAT2] → [FAN ONLY] → [AUTO]. ② If pushed continuously, the setting will be changed in one step for every 0.5 sec.	
3	FAN SELECT	① Each time this button is pushed, the [FAN] setting is changed over cyclically, [AUTO] → [LOW] → [MED] → [HIGH] → [AUTO]. ② If pushed continuously, the setting will be changed in one step for every 0.5 sec.	Fan speed
4	([LOUVER])	① When this button is pushed once, [LOUVER] indicator comes on. ② If pushed once more, [LOUVER] indicator will go off.	Provided for ceiling type
5	TEMP. CONTROL + −	① Each time [+] button is pushed, the [TEMP] setting of temperature is raised by 1°C. ② If [+] is pushed continuously, the setting will be raised by 1°C every 0.5 sec. ③ Each time [−] button is pushed, the setting of temperature is lowered by 1°C. ④ If [−] is pushed continuously, the setting will be lowered by 1°C every 0.5 sec.	In the 18~29° CL range
6	TIME CONTROL TIME ADJUST + − TIMER SELECT	① Each time [TIME ADJUST] button is pushed, the [TIME] display is changed cyclically. The time can be changed while the TIME display stays flashing. (flashing) (flashing) (flashing) [CLOCK] → [CLOCK] → [ON TIME] → [OFF TIME] [12:00] [12:00] [6:00] [18:00] ② While the TIME display stays flashing, the time gains one minute upon each pressing of [+]. ③ If [+] is pushed continuously, the time gains 10 minutes for every 0.25 sec. ④ While the TIME display stays flashing, the time goes back one minute upon each pressing of [−]. ⑤ If [−] is pushed continuously, the time goes back 10 minutes for every 0.25 sec. ⑥ Each time [TIMER SELECT] button is pushed, timer mode change over cyclically, [ ] (CONTINUE) → [ON] → [OFF] → [ON→OFF] → [ON←OFF] → [CYCLE] → [ ]. ⑦ If pushed continuously, the timer mode will be changed in one step for every 0.5 sec.	If time is not set, 12:00 6:00 18:00 are set automatically. The digit of 1 min. becomes 0. The digit of 1 min. becomes 0.
7	CHECK	① Pressing this key for 0.5 sec. provides [MALFUNCTION CHECK], indicating on liquid crystal the contents of inspection in the sequence of (times of compressor-on) → (contents of malfunction for #1 unit) → (contents of malfunction for #2 unit) →.... ② Pressing this key for 5 sec. gives "Indoor microcomputer reset mode" to reset the indoor microcomputer by way of hardware. ③ Pressing this key for 10 sec. gives "Check contents clear mode" to clear the contents of inspection stored in the remote controller provided, however, that times of compressor-on is not cleared.	The indication of the indoor unit which has not any malfunction content is skipped.
8	Reset	① By pressing the reset key, the remote controller is reset by way of hardware. (The setting/display are in initial values with the check memory cleared.)	

6.3 Timer operation

Continuous operation and timer operations are available. The setting of timer operation can be done as follows:

ON, OFF, ON → OFF, OFF → ON, ON ← → OFF CYCLE.

6.3.1 Time display

The present time is always displayed

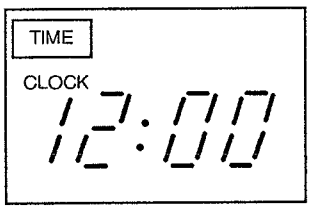
The display of the ON/OFF time is only in setting the time.

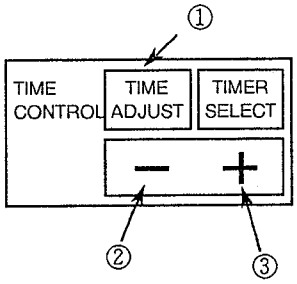
Once set, it will not changed even after carrying out the timer operation until the timer is reset.

Initial set time	The present time	12:00
	The time of ON	6:00
	The time of OFF	18:00

6.3.2 How to set the time

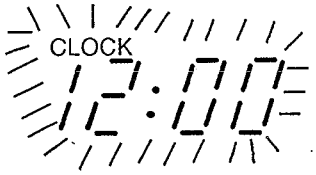
Liquid crystal





As to (–) and (+), change takes place by one minute by pressing once and 10 min./0.25 sec. by pressing continuously.

How to set the present time

1) 

[TIME ADJUST] switch is pressed.
[CLOCK] and Time figures flash.

2) Time is set by Time setting switch (–) or (+). The setting is finished when releasing. Pressing [TIME ADJUST] three times gives the display of the present time.
(If left as it is, after 15 sec. the display will go back to the present time).

How to set ON TIME

1)

[TIME ADJUST] switch is pressed twice.
[ON TIME] and Time figures flash.

2) Time is set by Time setting switch (–) or (+). The setting is finished when releasing. Pressing [TIME ADJUST] twice gives the display of the present time.
(If left as it is, after 15 sec. the display will go back to the present time).

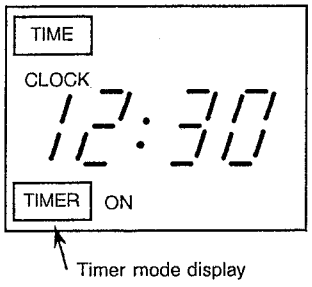
How to set OFF TIME

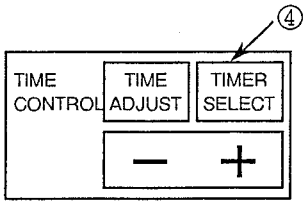
1)

[TIME ADJUST] switch is pressed three times.
[OFF TIME] and Time figures flash.

2) Time is set by Time setting switch (–) or (+). The setting is finished when releasing. Pressing [TIME ADJUST] once gives the display of the present time.
(If left as it is, after 15 sec. the display will go back to the present time).

6.3.3 How to set the timer operation





The following can be chosen sequentially by pressing [TIMER SELECT] switch:

1) [TIMER] ON
2) [TIMER] OFF
3) [TIMER] ON → OFF
4) [TIMER] ON ← OFF
5) [TIMER] CYCLE

* Be sure to set the present time.

* In case of reoperating after finishing timer operation, if [TIMER SELECT] is not altered, the timer operation will be performed again.

Timer ON operation

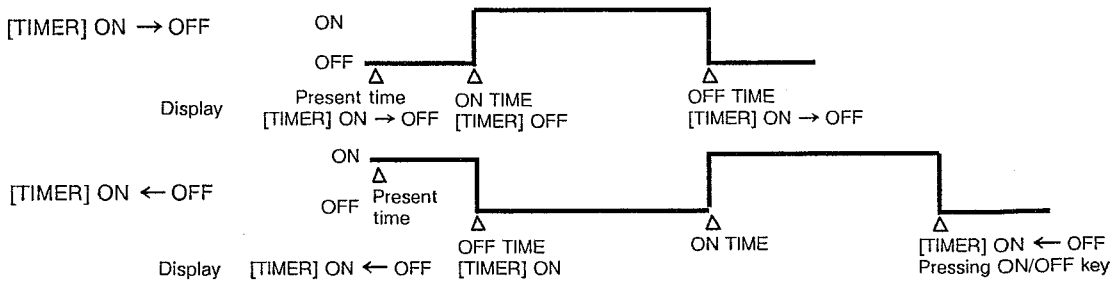
1) [TIMER] ON is applied.
2) ON/OFF key is pressed. Then LED is lighted.
   When the set [ON TIME] comes, the operation starts and OPERATION display comes on the liquid crystal, and the [TIMER] ON display goes off.
3) LED and OPERATION display goes off upon pressing ON/OFF key for stopping and [TIMER] ON is displayed.

Timer OFF operation

1) [TIMER] OFF is applied.
2) ON/OFF key is pressed. Then LED is lighted and the operation starts with OPERATION displayed on the liquid crystal.
3) When the set [OFF TIME] comes, the operation stops and the LED, OPERATION display goes off with [TIMER] OFF displayed.

ON ⟷ OFF timer operation

1) [TIMER] ON → OFF or [TIMER] ON ← OFF is applied.
2) ON/OFF key is pressed. LED comes on and the operation is performed as below:

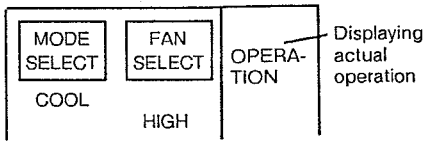


Repeated operation

1) [TIMER] CYCLE is applied.
2) ON/OFF key is pressed. Then LED is lighted and ON ⟷ OFF timer operation is repeated according to the ON time and OFF time (repeating every day as it is a 24-hour timer).
3) The operation key is pressed. LED goes off and operation stops.

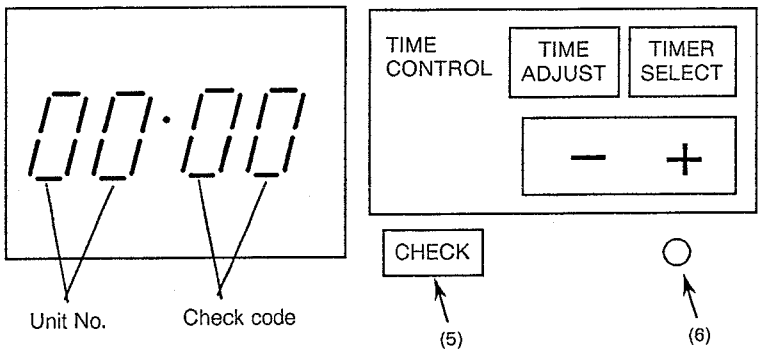
Timer stand-by display and operation display

Waiting on the timer is displayed by LED lighting while the actual operation is displayed on OPERATION on liquid crystal.



6.4 Malfunction check monitor

6.4.1 The times of thermostat ON as well as the check code are displayed on the time display area by pressing CHECK key.



(5) Check key
Provides check code display by pressing for one second and indoor microcomputer reset by pressing for 5 seconds.

* Remote controller clear by pressing the key for 10 sec. Check code is cleared (normally not used).

(6) Reset key (pushed by a needle and the like) Resetting remote controller (to the initial setting)

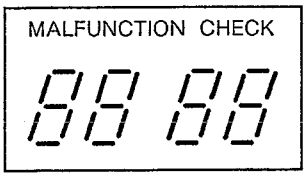
Judgement from operation status

	OPERATION STATUS	CODE	CAUSE
1.	Thermostat stays off in cooling: it is not turned off in heating	0C	Open-circuit in room temperature sensor.
	Thermostat stays off in heating: it is not turned off in cooling		Short-circuit in room temperature sensor.
2.	Indoor fan stays off in heating	0d	Open-circuit in indoor heat-exchanger sensor.
	Outdoor fan continues ON-OFF operation in heating.		Short-circuit in indoor heat-exchanger sensor.
3.	While indoor unit is in operation, outdoor unit keeps on stoppage Neon lamp comes on.	0b	Abnormality in drain system. Fault of drain pump. Drain pipe clogged.
4.	Though indoor unit operates, outdoor unit keeps on stopping.	04	Abnormality in connecting cable between indoor and outdoor units.
5.	Indoor fan does not work in heating operation. Warm air comes out in cooling operation.	08	4-way valve coil burnt out, pipe clogged, abnormality in indoor heat-exchanger sensor.
6.	Indoor fan at LOW speed in cooling operation with the outdoor remaining in stoppage.	09	Refrigerant gas in shortage. Abnormality in indoor heat-exchanger sensor.
7.	Full stop	18	Open or short-circuit in outdoor TE sensor.
8.	Full stop	19	Open or short-circuit in outdoor TL sensor.
9.	Full stop	21	Pressure switch does not reset within the set time.
10.	Full stop	1C	Pressure switch, overcurrent sensor operated.
11.	Indoor unit does not operate at all.	99	Abnormality in connecting cable between remote controller and indoor units.

6.4.2 How to read malfunction check monitor display

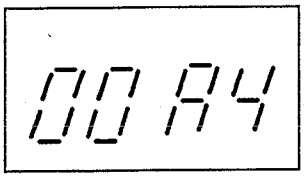
By pressing [CHECK] key, times of No.1 unit compressor-ON actuations as well as the check code information of 2 faults × 16 units are displayed on the time display area. (2 sec. per one phenomenon)

<Times of compressor-ON>



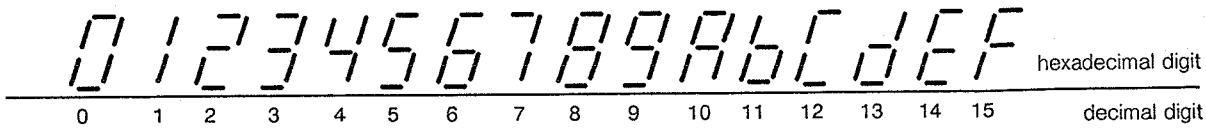
Display in 4 digits of hexa-decimal notation

Ex. In case of the number of times of compressor actuations of 164.

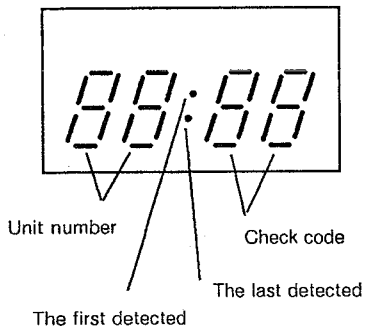


$16^3 \times 0 + 16^2 \times 0 + 16 \times 10 + 4 = 164$

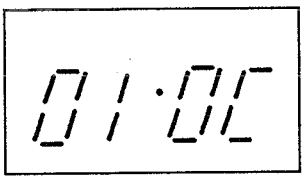
Display in 7 segments



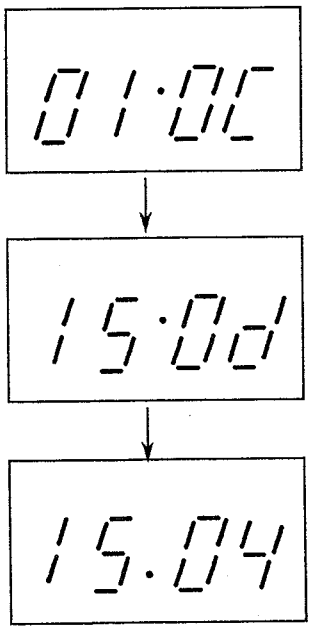
<Check code information>



Ex. In case of room temperature sensor of No.1 unit in trouble.



For No.15 unit, firstly room temperature sensor and secondly connecting cable between the indoor and outdoor units (serial signal) are in trouble.



No display is made if there is no fault.

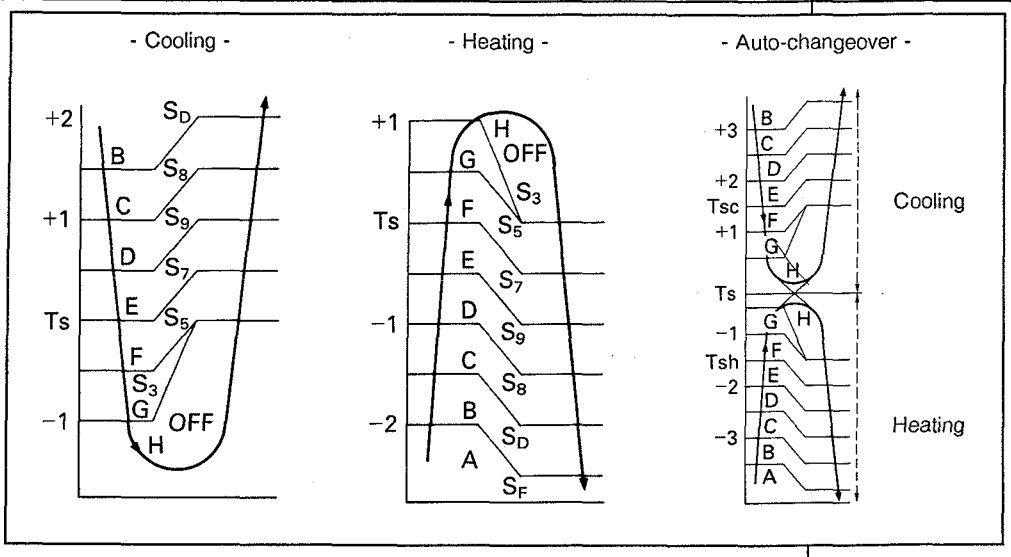
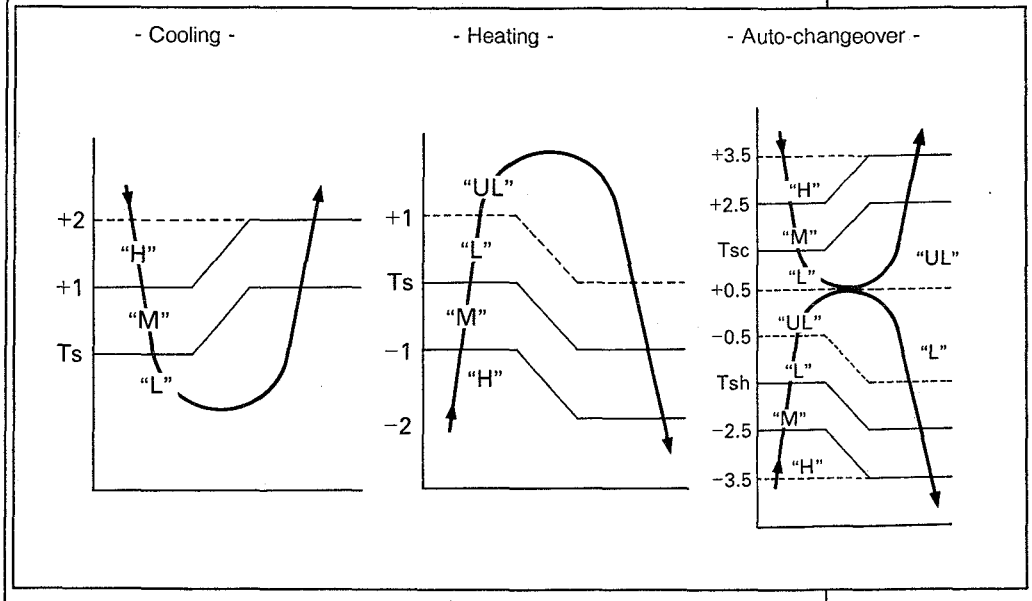
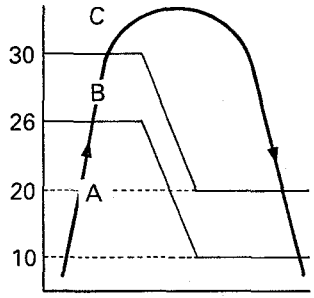
6.4.3 List of check code

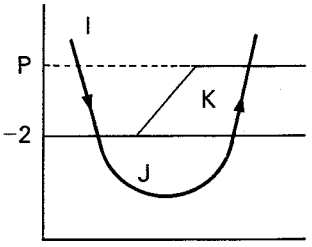
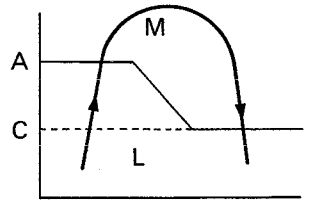
DIAGNOSTIC FUNCTIONS			JUDGEMENT AND ACTION
CHECK CODE	SYMPTOM	STATUS OF AIR CONDITIONER	
01	ROOM TEMP. SENSOR (TA). Out of place, break, short-circuit.	Operation continuing	1. Check for indoor temp. sensor. 2. Check for indoor PC board.
02	INDOOR HEAT-EXCHANGER SENSOR (TC). Out of place, break, short-circuit.	Operation continuing	1. Check for indoor heat-exchanger sensor. 2. Check for indoor PC board.
05	FLOAT SWITCH float circuit out of position, break.	Outdoor unit stops	1. Fault in drain pump. 2. Drain pipe clogged. 3. Check for indoor PC board.
04	RETURN SIGNAL NOT COMING TO INDOOR 1) Wrong wiring in connecting cable (serial signal).	Operation continuing	1. If outdoor unit does not work at all. (1) Check for connecting cable correct wrong wiring. (2) Check for outdoor PC board. 2. If operates normally. Between indoor terminal plates 2 and 3, return signal is : Available: Check for indoor PC board. Not available: Check for outdoor PC board.
08	4-WAY VALVE SYSTEM 1) Indoor heat-exchanger temperature rises, after starting cooling operation. 2) Indoor heat-exchanger temperature drops after starting heating operation.	Operation continuing	1. Check for 4-way valve. 2. Check for 2-way valve and check valve. 3. Wrong with indoor heat exchanger sensor. 4. Check for indoor PC board.
09	OTHER CYCLE SYSTEM 1) Indoor heat exchange temperature does not change after starting cooling/heating operation. 2) When transmitting instruction for stopping compressor by freeze preventing control.	Operation continuing	1. Compressor case thermostat, IOL operation. (contactor OFF, compressor stops) 2. Indoor heat-exchange sensor out of place. 3. Check for indoor PC board.
		Outdoor unit stops (indoor fan L)	1. Check for charged amount of refrigerant gas. (Gas shortage → gas supplement, check for gas leaks) 2. Indoor fan locked.

18	DEFROST SENSOR (TE) Out of place, break, short-circuit.	Full stop	1. Check for defrosting sensor. 2. Check for outdoor PC board.
19	OUTDOOR HEAT-EXCHANGER SENSOR (TL) Out of place, break, short-circuit.	Full stop	1. Check for outdoor heat-exchanger sensor. 2. Check for outdoor PC board.
21	HIGH PRESSURE SWITCH High pressure switch does not reset. (5 sec : in cooling 30 sec : in heating)	Full stop	1. Check for high pressure switch. 2. Check for outdoor PC board.
1C	OTHER ABNORMALITY OF OUTDOOR UNIT Compressor does not operate. Start once, but soon after stop by OCR.	Full stop	1. Check for compressor. 2. Check for wiring of compressor. (lack of phase, short circuit) 3. Check for voltage. 4. Check for outdoor PC board.
99	WRONG WIRING OF REMOTE CONTROL UNIT Indoor unit does not operate at all.	Full stop	1. Check for wiring between remote control unit and indoor unit. 2. Check for indoor unit PC board.

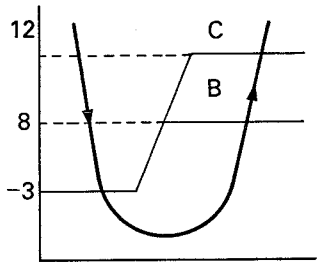
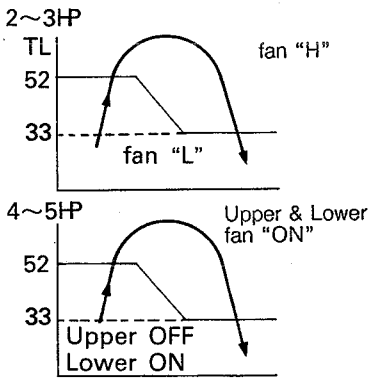
7. OUTLINE OF CONTROL CIRCUIT

<table>
<tr><th>NO.</th><th>ITEM</th><th>OUTLINE OF SPECIFICATIONS</th><th>REMARKS</th></tr>
<tr><td>1</td><td>Discrimination</td><td>Discrimination of outdoor unit is performed either in the reset of power source or when stopping from operating condition, and the controlling is changed over in accordance with the result of discrimination. [Heating S1] is used as the discriminating signal, [Inverter heat pump], [Normal heat pump], and [Cooling only] being discriminated according to the contents of reverse signal from the outdoor unit.</td><td></td></tr>
<tr><td>2</td><td>Operation change-over</td><td>Operation mode is changed over according to operation mode select instruction from the remote controller.
<table><tr><th>REMOTE CONTROLLER INSTRUCTION</th><th>OUTLINE OF CONTROL</th></tr><tr><td>Stop</td><td>Stopping air conditioner</td></tr><tr><td>Auto</td><td>Performing automatic change-over</td></tr><tr><td>Cool</td><td>Performing cooling operation</td></tr><tr><td>Heat 1</td><td>Performing heating operation</td></tr><tr><td>Heat 2</td><td>Performing heating operation with indoor fan operation at defrosting</td></tr><tr><td>Fan only</td><td>Performing fan only operation</td></tr></table></td><td></td></tr>
<tr><td rowspan="2">3</td><td>Controlling room temperature</td><td>3-1 Adjusting range (°C)
<table><tr><th></th><th>In cooling</th><th>In heating</th></tr><tr><td>Remote controller setting temperature</td><td>18 ~ 29</td><td>18 ~ 29</td></tr><tr><td>Operating temperature</td><td>18 ~ 29</td><td>20 ~ 31</td></tr></table>3-2 Operating point is compressor - off.
3-3 Operating temperature accuracy: ±1°C.
3-4 Differential: 1 deg</td><td rowspan="2">Ts(Max) = 35°C</td></tr>
<tr><td>Correcting temperature compensation</td><td>3-5 Room temperature controlled in the heating operation can be corrected by dip switch of indoor microcomputer.
<table><tr><td>Dip switch 1
Setting 2</td><td>ON
ON</td><td>ON
OFF</td><td>OFF
ON</td><td>OFF
OFF</td></tr><tr><td>Control temperature compensation</td><td>0deg</td><td>2deg</td><td>4deg</td><td>6deg</td></tr></table></td></tr>
<tr><td>4</td><td>Automatic capacity control (Thermo-control)</td><td>4-1 Instruction of operation frequency is given to outdoor unit based on the table below according to the difference between Ta and Ts.
4-2 Compressor is turned on at the frequency instruction of [S3] or higher, and turned off below [S3].</td><td></td></tr>
</table>

NO.	ITEM	OUTLINE OF SPECIFICATIONS	REMARKS
			
5	Fan speed control	5-1 [HIGH], [MED], [LOW] and [AUTO] are available. 5-2 [Ultra low] or [Stop] when thermostat is turned off while heating is being performed. 5-3 In the auto fan, the fan speed is changed by the difference between Ta and Ts, as shown below. 	[Stop] is cold draft prevention by Tc.
6	Cold draft preventing control	When performing heating operation, indoor fan control is carried out as follows based on temperature detection of Tc sensor. C zone: Depending upon fan speed setting of the remote controller B zone: Indoor fan at "L" A zone: Fan stop 	

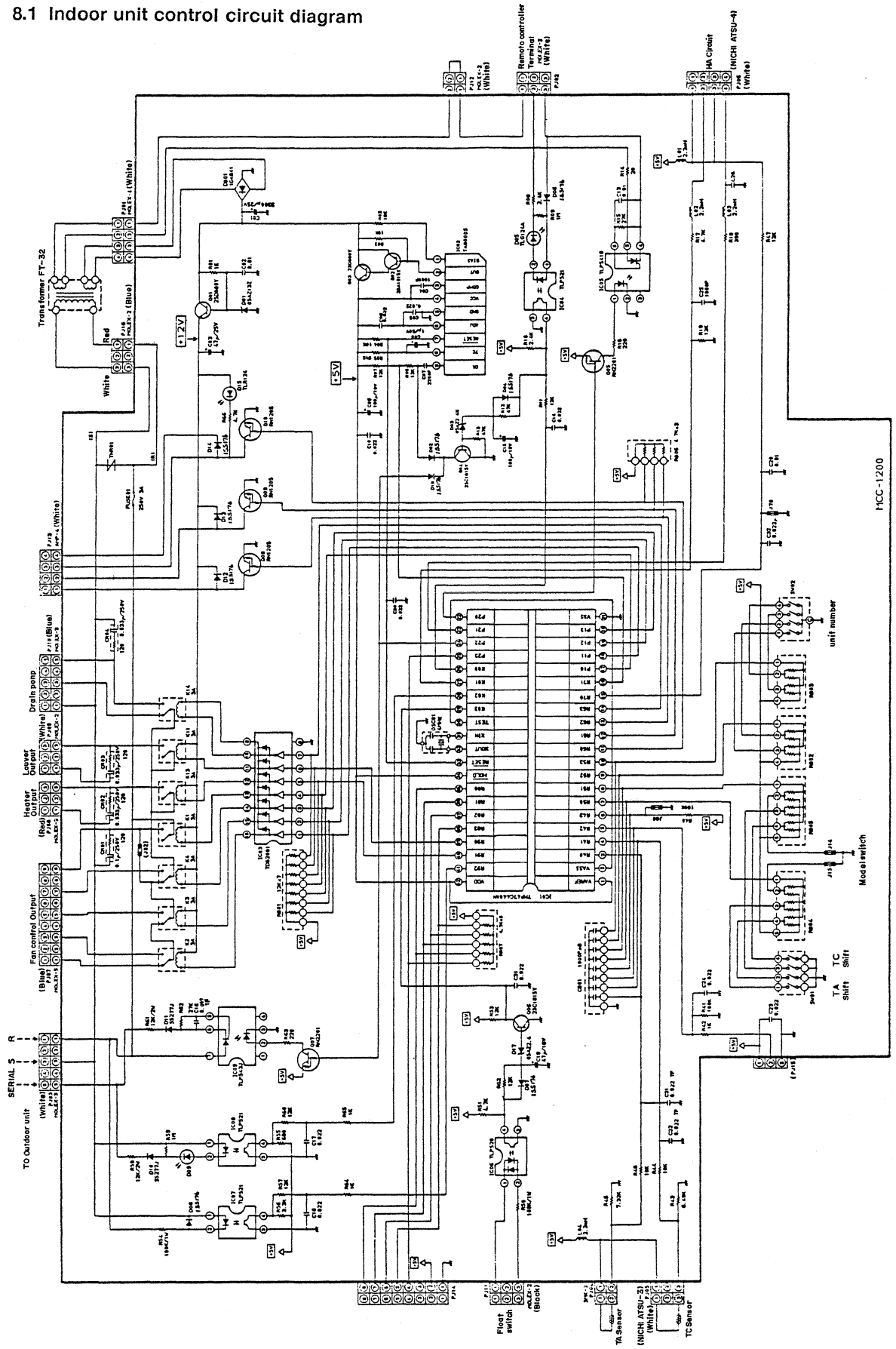
<table>
<tr><th>NO.</th><th>ITEM</th><th>OUTLINE OF SPECIFICATIONS</th><th>REMARKS</th></tr>
<tr><td>7</td><td>Freeze preventing control (Low temp. release)</td><td>When performing cooling operation, the following control is done based on temperature detection of Tc sensor.
① When starting the operation, the point P is made +3°C.
② Frequency instructed to the outdoor unit is reduced when [J] zone is detected for 1 minute continuously.
 
③ Frequency instructed to the outdoor unit is reduced each time 2 minutes have elapsed thereafter.
④ When [K] zone is detected, timer counting is discontinued and held on.
⑤ When [I] zone is detected, timer is cleared for returning back to ordinary operation.
⑥ When frequency instructed to the outdoor unit has become H, the point P is changed to +12°C to be covered by check display.
When [I] zone is reached, the temperature is returned back to +3°C.</td><td>H = OFF</td></tr>
<tr><td>8</td><td>High temperature release control</td><td>When performing heating operation, the following control is done based on temperature detection of Tc sensor.
① In [M] zone, release signal is transmitted.
Outdoor fan is turned off at the shortest for 3 minutes based on this signal.
② The control point for A and C can be chosen from the below table:
 
<table><tr><td>Dip switch 3
Setting 4</td><td>ON
ON</td><td>ON
OFF</td><td>OFF
ON</td><td>OFF
OFF</td></tr><tr><td>A/C (°C)</td><td>54/52</td><td>58/56</td><td>60/58</td><td>–</td></tr></table></td><td>Interval operation of outdoor upper fan at low is done in the outdoor unit select B mode. (Outdoor fan)

B = 4HP, 5HP</td></tr>
<tr><td>9</td><td>Drain pump control</td><td>9-1 When [Cooling] operation is performed, drain pump is actuated.
9-2 While overflow switch is operated, compressor is turned off and drain pump works.
9-3 When overflow switch is operated for a period of 2 minutes, it will become the subject of check display.</td><td></td></tr>
<tr><td>10</td><td>Residual heat removal</td><td>When stoppage takes place in [HEAT 2] operation, indoor fan is operated in [LOW] for 30 sec.</td><td></td></tr>
<tr><td>11</td><td>Auto louver control</td><td>When receiving louver signal from remote controller, auto louver operation is performed if indoor fan is being in operation.</td><td>Provided for ceiling type</td></tr>
<tr><td>12</td><td>Test operation</td><td>12-1 If Remote controller's ON/OFF switch is pressed 5 minutes continuously, the unit goes into test run mode, and fixed-frequency operation is performed with the indoor fan in the [HIGH].
12-2 After continuing the operation for 30 minutes, [Fan only] operation is initiated.</td><td>Instructed frequency [S7]</td></tr>
</table>

NO.	ITEM	OUTLINE OF SPECIFICATIONS	REMARKS
13	High pressure release	The following control is performed when high pressure switch of the outdoor unit is actuated. ① In cooling operation Compressor is turned off and if the high pressure switch does not reset for 5 seconds continuously thereafter, it is judged abnormal. ② In heating operation Compressor is turned off and if the high pressure switch does not reset for 30 seconds continuously thereafter, it is judged abnormal. If the switch resets within 30 sec., the compressor restarts 2 minutes and 30 sec. later. And if this process is repeated, the release by outdoor fan and shift of compressor-on point will be done. ③ In defrosting operation Compressor is turned off, the operation returning back to heating operation.	< Outdoor unit control > LED lamp comes on in abnormal condition, being abnormal code transmitted to indoor unit.
14	Defrosting	14-1 In heating operation, defrosting is made based on outdoor heat exchange temperature Te. 14-2 When cumulative working time of the compressor in [A] zone has amounted to 55 minutes, defrosting operation starts. (25 minutes initially) 14-3 The longest defrosting time is 12 minutes, 60 sec. in the case of turning into [B] zone, and immediate returning back when [C] zone is reached. 	< Outdoor unit control >
15	Low ambient cooling	15-1 Control on outdoor fan is made to meet with cooling at low outdoor temperature based on outdoor heat exchange temperature TL. 15-2 Control by outdoor heat exchange temperature TL is illustrated in the right. 	< Outdoor unit control >
16	Check display	Fault diagnosis is carried out by check for serial signal transmission and reception with outdoor unit as well as the self check by indoor microcomputer. And check code is transmitted to protective operation/remote controller based on the contents of it. In the remote controller, check code is displayed on the liquid crystal by pressing [CHECK] key.	See other item: Using [TIME] display Unit NO. Check code.
17	Anti-restart timer	The outdoor unit delays restarting for 2.5 min. to prevent short cycling compressor operation.	
18	Group operation control	Up to 16 units can be controlled in same setting condition by one remote controller. However, thermo-control function is independent. Respective delayed start time for preventing simultaneous large starting current can be by different setting of the unit No. switch on the indoor PC board.	Refer to P. 35

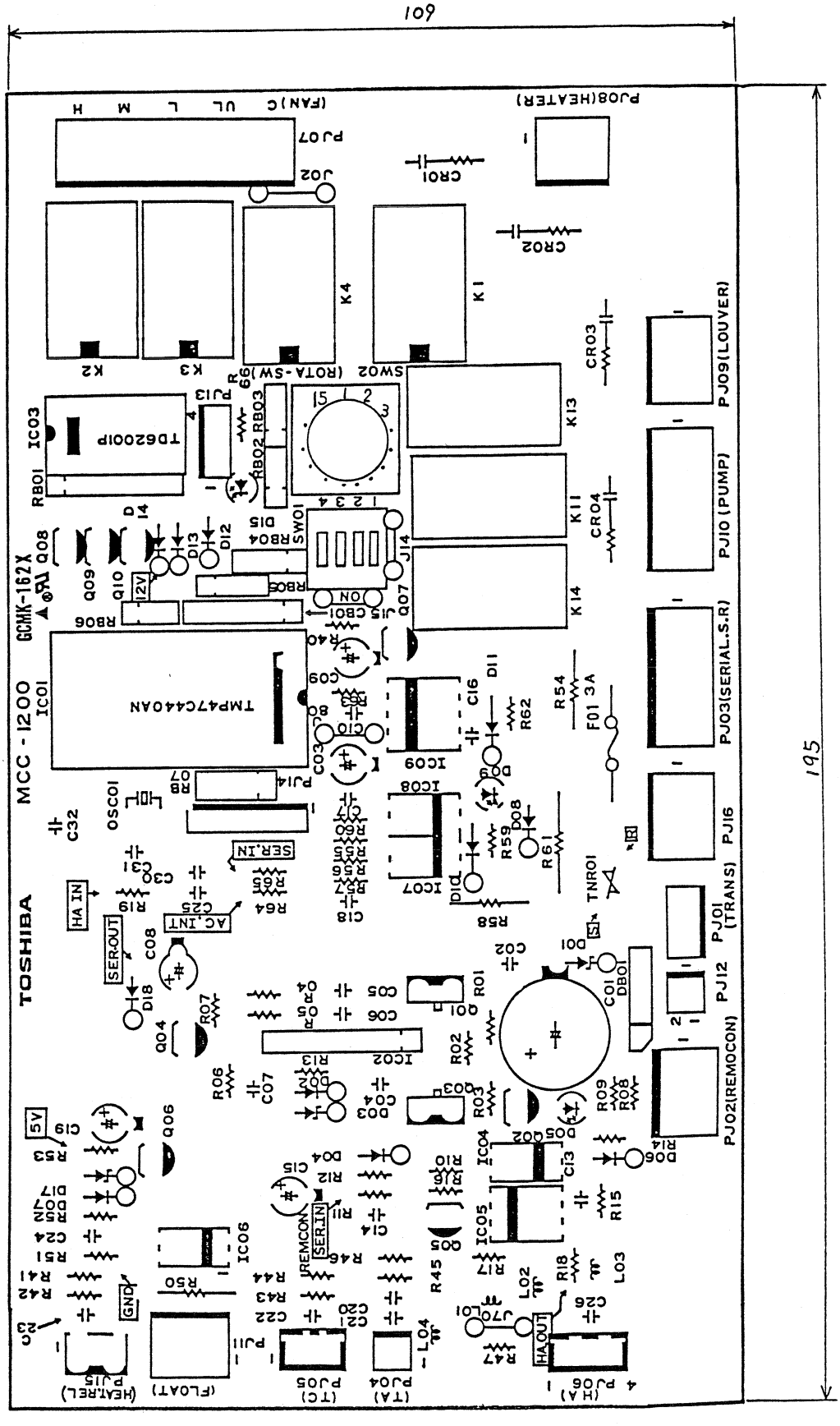
8. DESCRIPTION OF INDOOR UNIT CONTROL CIRCUIT

8.1 Indoor unit control circuit diagram



FILE NO. MCC-1200
H3-1-10

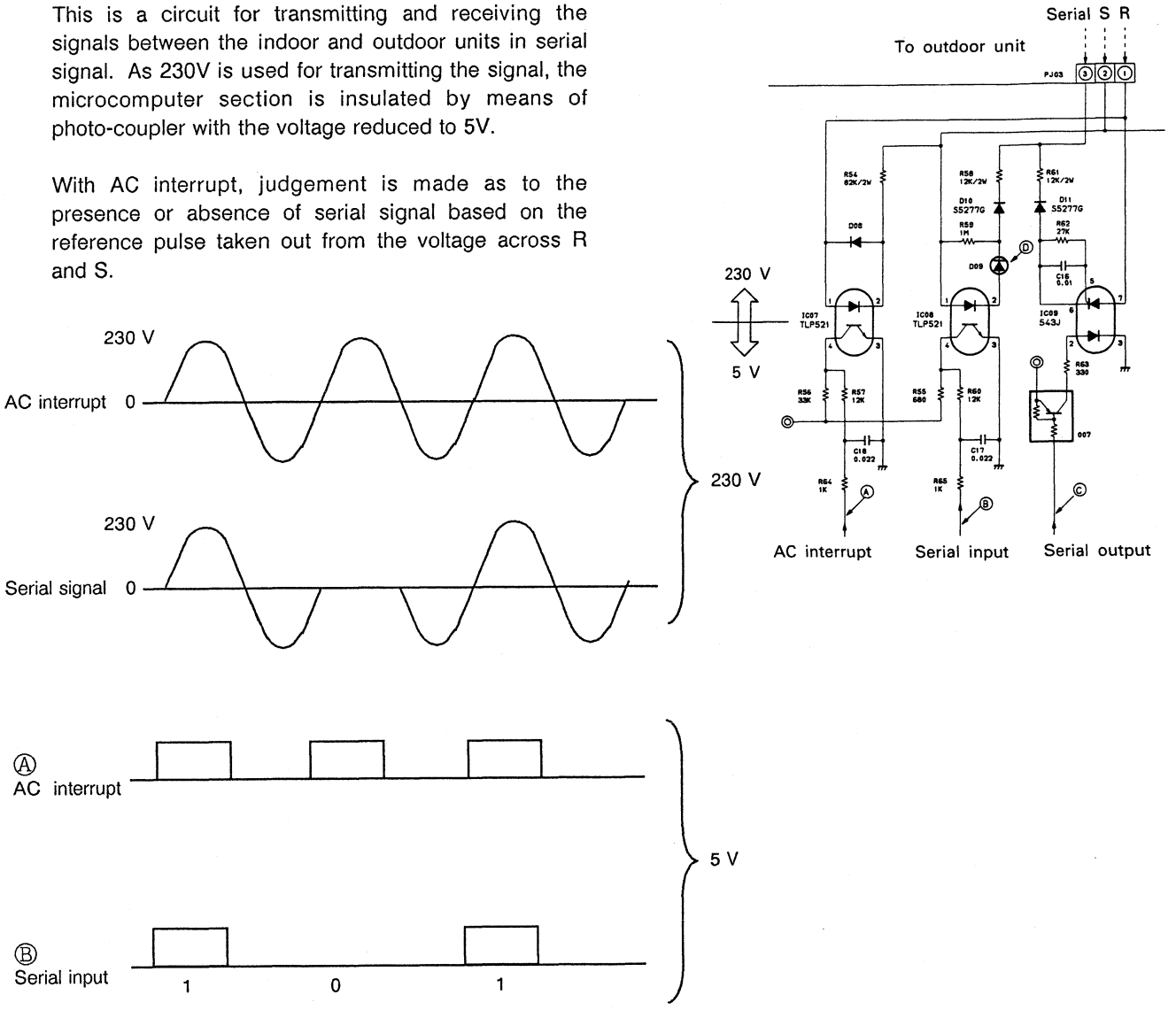
8.2 Indoor unit PC board



8.3 Serial signal circuit (between outdoor and indoor units)

This is a circuit for transmitting and receiving the signals between the indoor and outdoor units in serial signal. As 230V is used for transmitting the signal, the microcomputer section is insulated by means of photo-coupler with the voltage reduced to 5V.

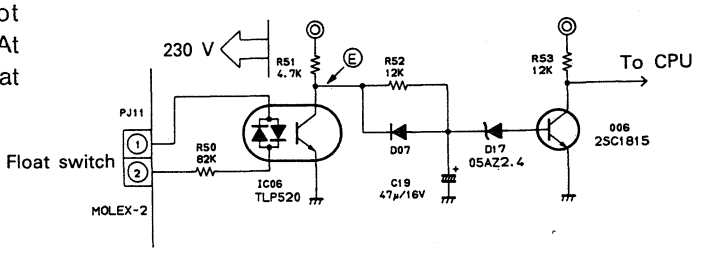
With AC interrupt, judgement is made as to the presence or absence of serial signal based on the reference pulse taken out from the voltage across R and S.



Ⓐ/Ⓑ .... are measurement points on the printed circuit board.
Ⓓ provides flashing (orange) on LED in the serial input.

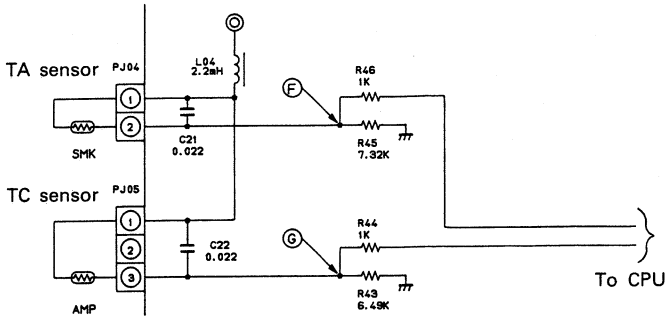
8.4 Float switch circuit

In normal condition in which float switch is not operated, 230V is applied across the pins 1 and 2. At this time, point Ⓔ is at the GND level. If the float switch is operated, Ⓔ will be at the level of 5V.



8.5 Sensor circuit

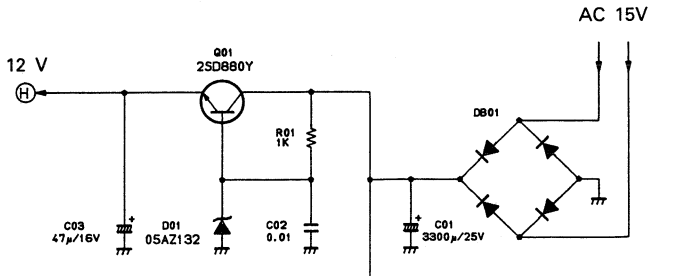
This circuit detects the temperature by dividing voltage with resistance and sensor and bringing the voltage value into CPU, using the characteristics of the sensor that resistance varies with different temperatures. TA and TC have the same circuit composition.



When TA and TC are at 25°C approximately, the voltage level is some 2V both at points Ⓕ and Ⓖ.
If Ⓕ / Ⓖ are at GND or 5V, abnormal condition prevails such as opening or short-circuit of the sensor.

8.6 12V power source circuit

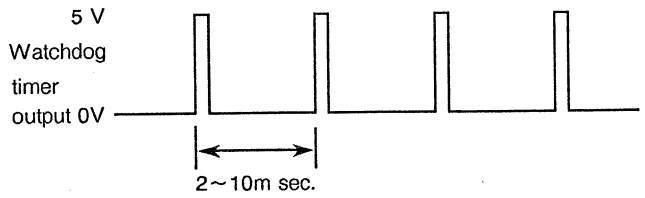
Full-wave rectification by diode bridge (DB01) of alternate current supplied from power transformer followed by the provision of transistor (Q01) gives DC12V power source (Ⓗ).

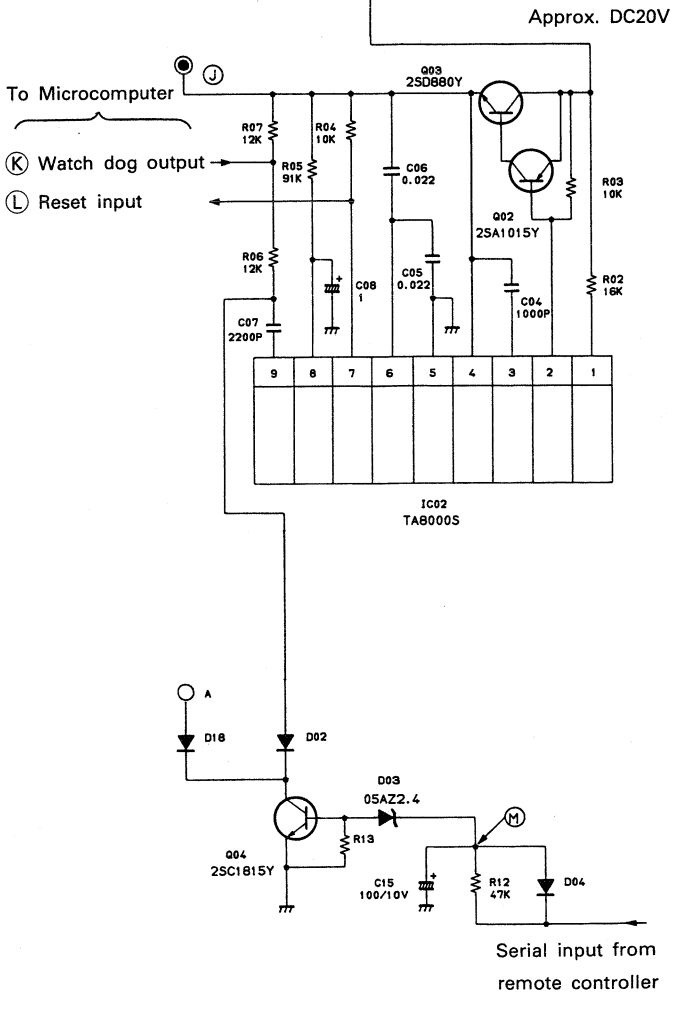


8.7 5V watchdog timer circuit

Built-in IC (TA8000S) is used to produce 5V power source (Ⓙ). Also, it sends signals to reset port (Ⓛ) of microcomputer which is in stand-by at 0V and starts its operation with the signal of 5V.

Watchdog timer output gives the signal from microcomputer as illustrated below. This indicates that the microcomputer is working in normal routine. For example if the microcomputer is straying due to noise and so on, this waveform is not produced. In case there is no waveform, it plays the role of restoring normal condition by inputting the resetting "0V" to the microcomputer.





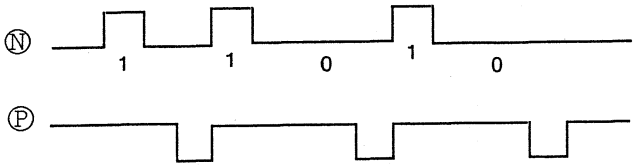
8.8 Reset circuit

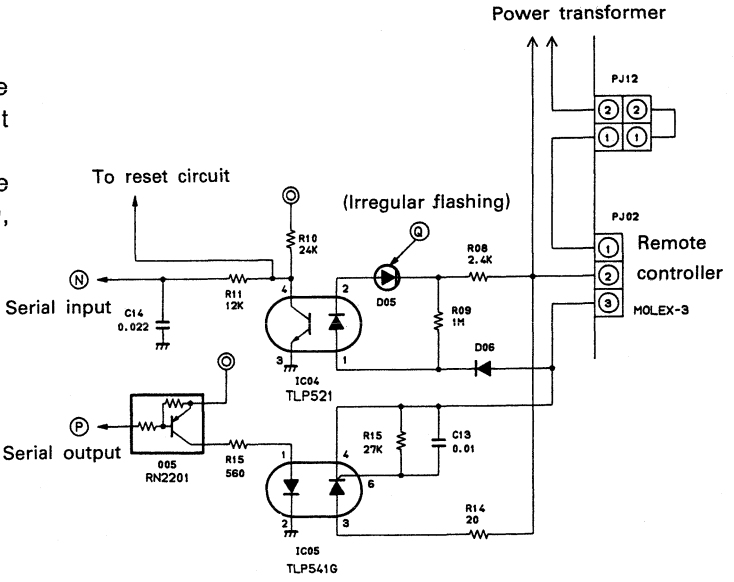
This circuit makes indoor microcomputer reset by way of hardware when you keeps on pressing the check key of remote controller for longer than a predetermined period. It plays the role of resetting microcomputer from the remote controller when it strays. The point (Ⓜ), which is normally at the level of 5V, drops down to the GND level in the reset operation.

8.9 Serial signal circuit
(Between remote controller and indoor unit)

This is the circuit for transmitting and receiving the signals between the remote controller and indoor unit in serial signal.

Point Ⓠ is a LED (green) which flashes when there are signals from the remote controller. At Ⓝ and Ⓟ, the signals as illustrated below are output.

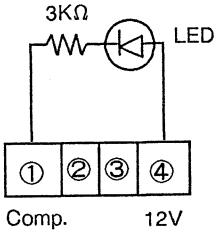


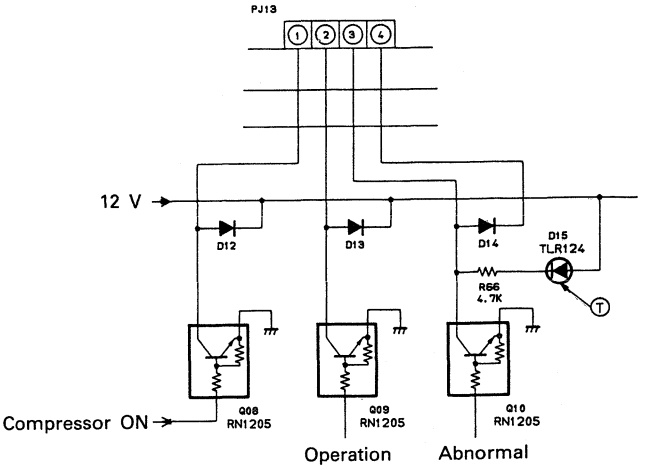


8.10 Optional circuit

A circuit which allows for the take-out of the signals of abnormal, operation and Compressor-ON. Point Ⓣ is a LED which lights at abnormal.

The connector pin 1 outputs 12V. When you want to see the signal of compressor-ON, you can do it simply with the circuit below.





8.11 Relay circuit

The relay circuit consists of the diagram in the righthand side.
The relay performs the following functions:

K1: Turning fan on and off

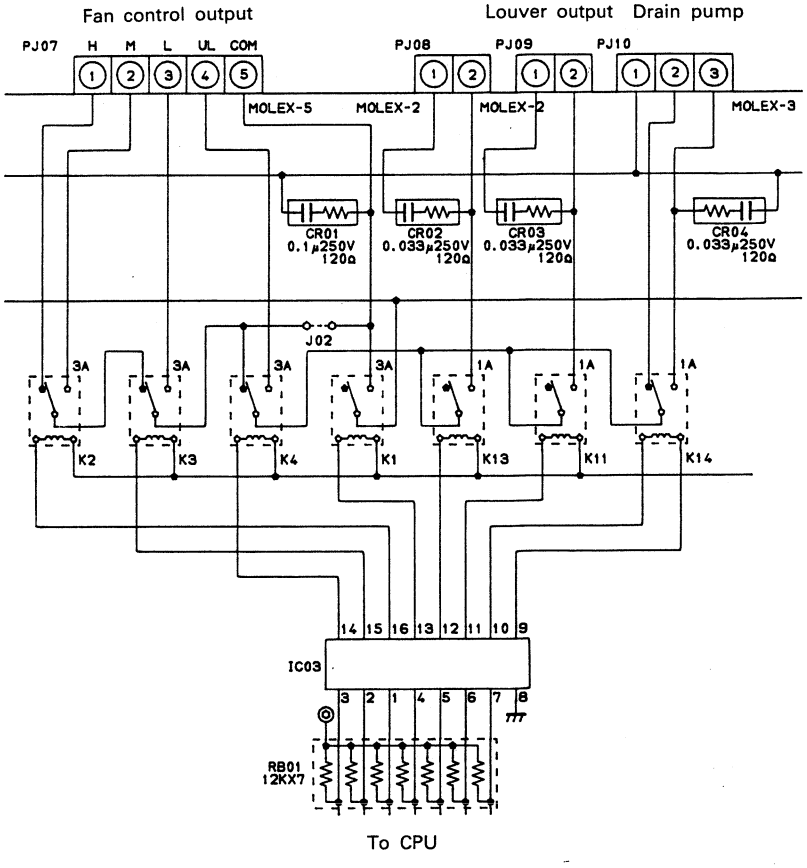
K2: Changing over H/M of fan

K3: L tap of fan

K4: UL tap of fan

K11: Turning louver on and off

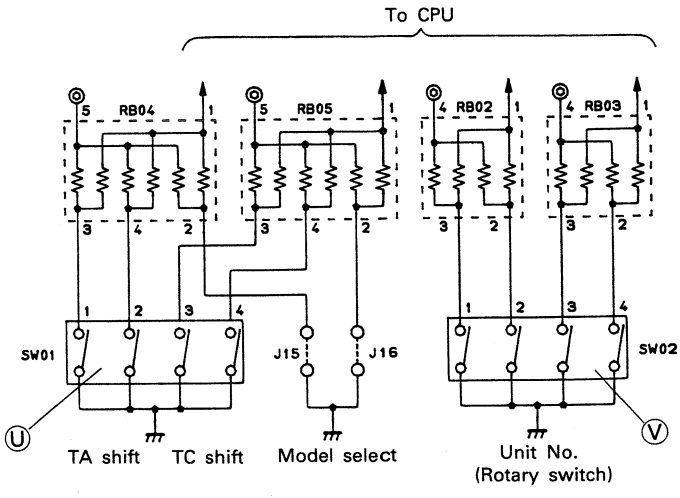
K14: Turning drain pump on and off (① – ③)



8.12 Switch circuit

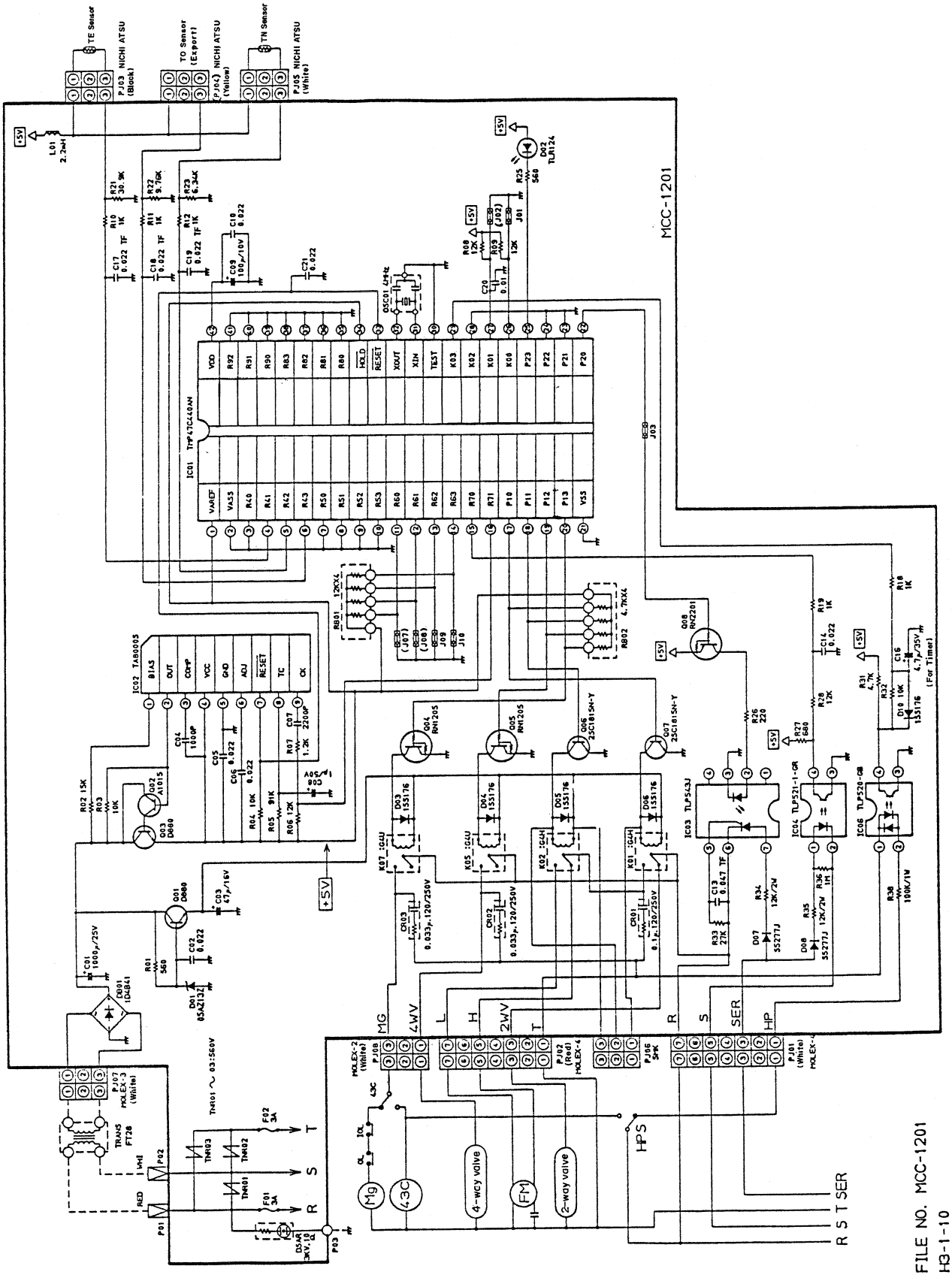
TA shift, TC shift and unit No. are changed over by the switch.
TA shift and TC shift are set in factory with unit No. at "1".

In servicing, the setting should be made to the same TA/TC shift as the PC board attached originally. In case of operating one single unit, unit No. "1" will do. With the operation of many units (multi units control) the unit No. should be adjusted in such a way as 1, 2, 3 .....

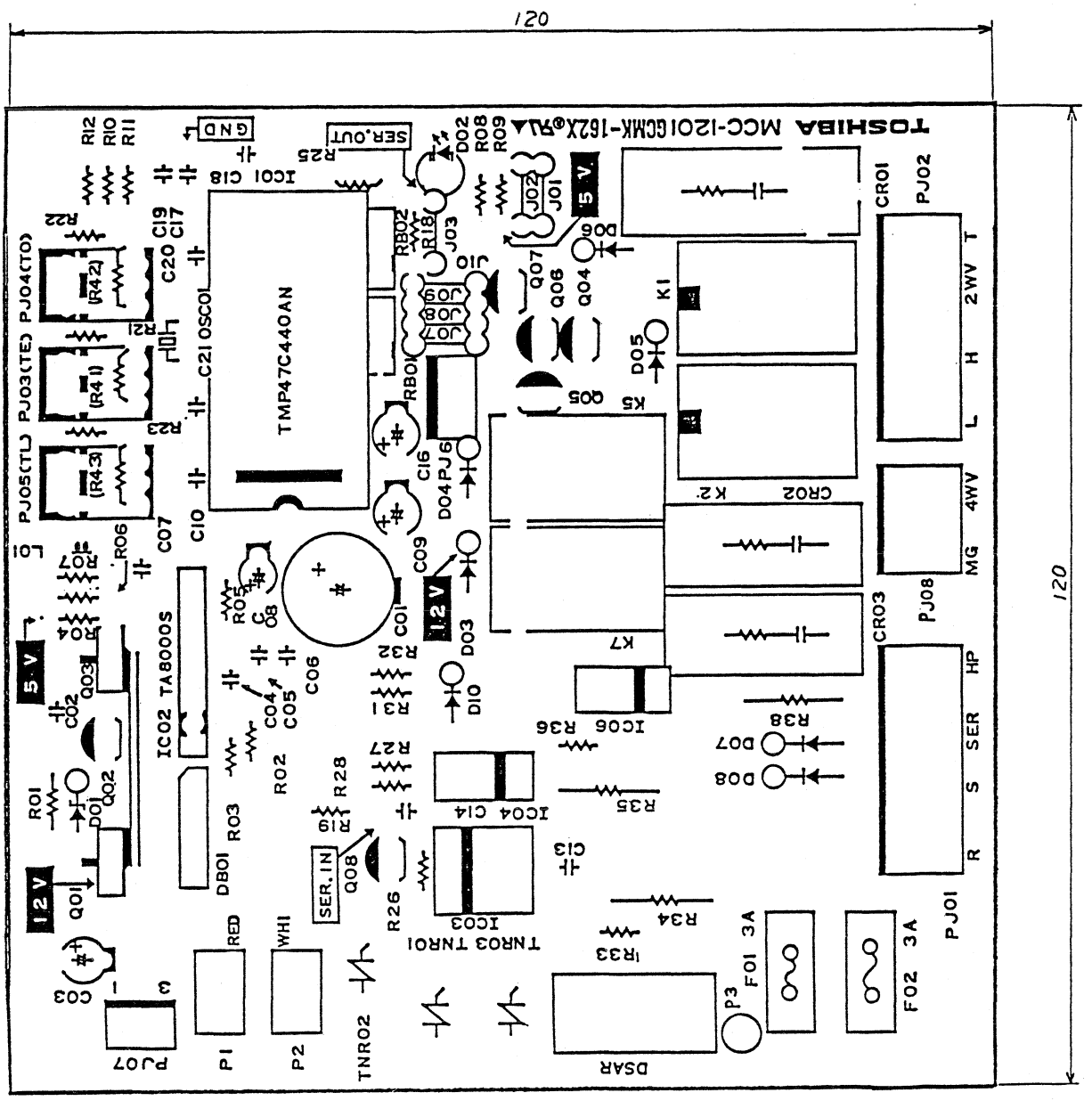


9. DESCRIPTION OF OUTDOOR UNIT CONTROL CIRCUIT

9.1 Outdoor unit control circuit diagram

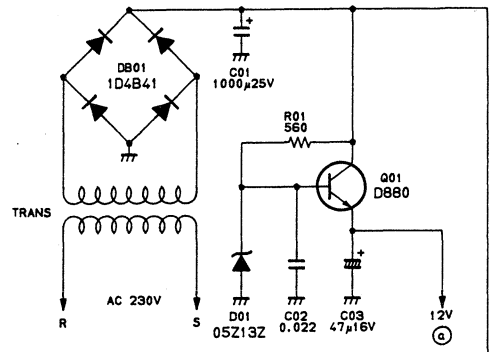


9.2 Outdoor unit PC board



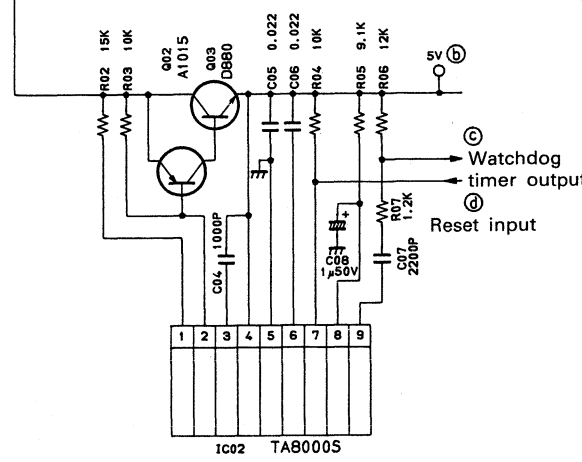
9.3 12V power source circuit

Outdoor PC board has a built-in transformer and full-wave rectification by diode bridge (DB01) followed by the provision of transistor (Q01) produces DC power source (ⓐ) at 12V.



9.4 5V watchdog timer circuit

Basically, the same description as the indoor PC board applies, provided, however, that the reset circuit is not added to the outdoor side.



9.5 Sensor circuit

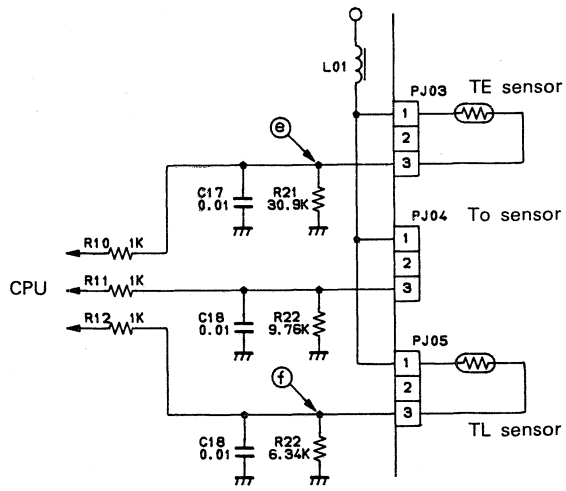
This circuit detects the temperature by dividing voltage with resistance and sensor and bringing the voltage value into CPU, using the characteristics of the sensor that resistance varies with different temperatures.

TE is for defrosting, while TL is for low ambient cooling operation.

The following voltages are produced at each of the temperatures.

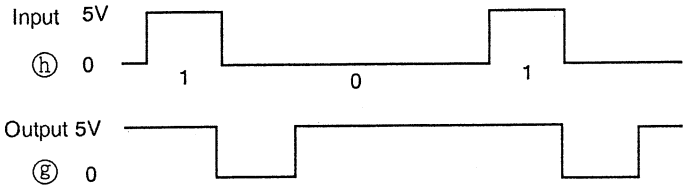
	0°C	25°C
TE ⓔ	2.3V	3.8V
TL ⓕ	0.8V	2.0V

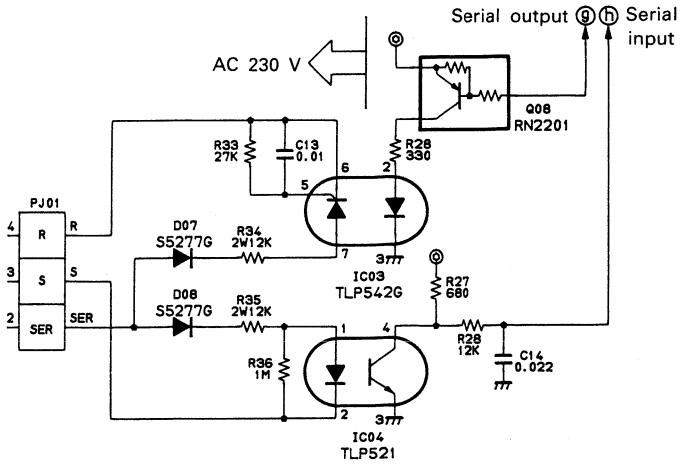
When ⓔ/ ⓕ are at GND or 5V, the sensors are in open or short-circuited.



9.6 Serial signal circuit (between indoor and outdoor units)

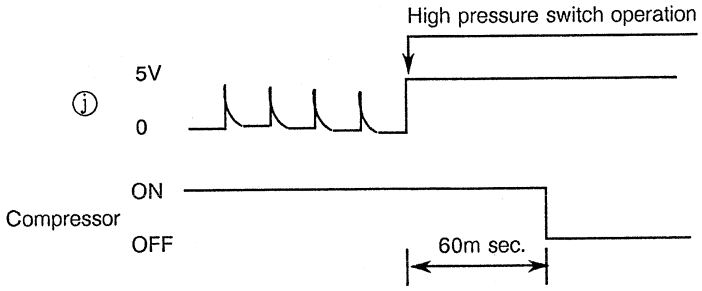
Transmits and receives the signals between indoor and outdoor units in serial signals. As 230V is used for transmitting the signal, the microcomputer section is insulated with photo-coupler with 5V being supplied.

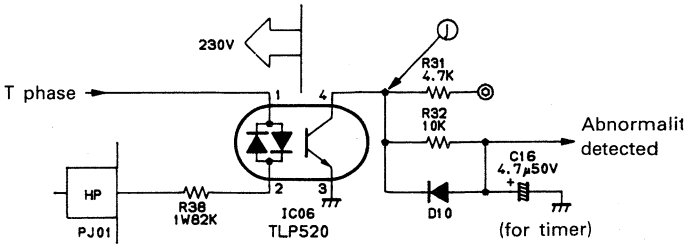




9.7 Abnormality-detecting circuit

When high pressure switch is operated, abnormality is detected to stop the compressor.

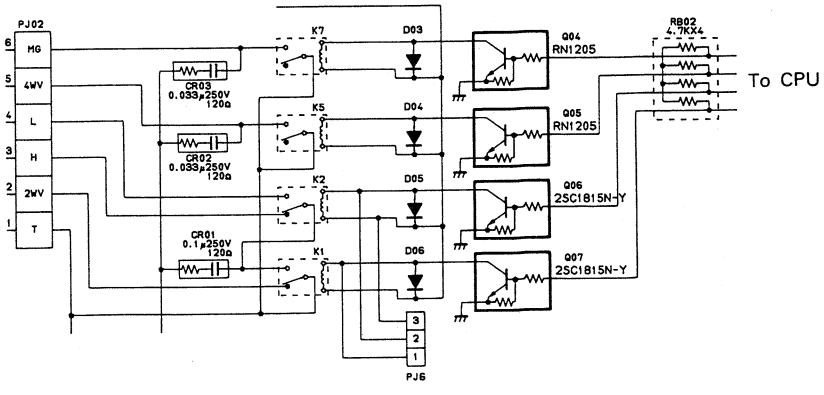




9.8 Relay circuit

The relay circuit consists of the diagram in the righthand side.

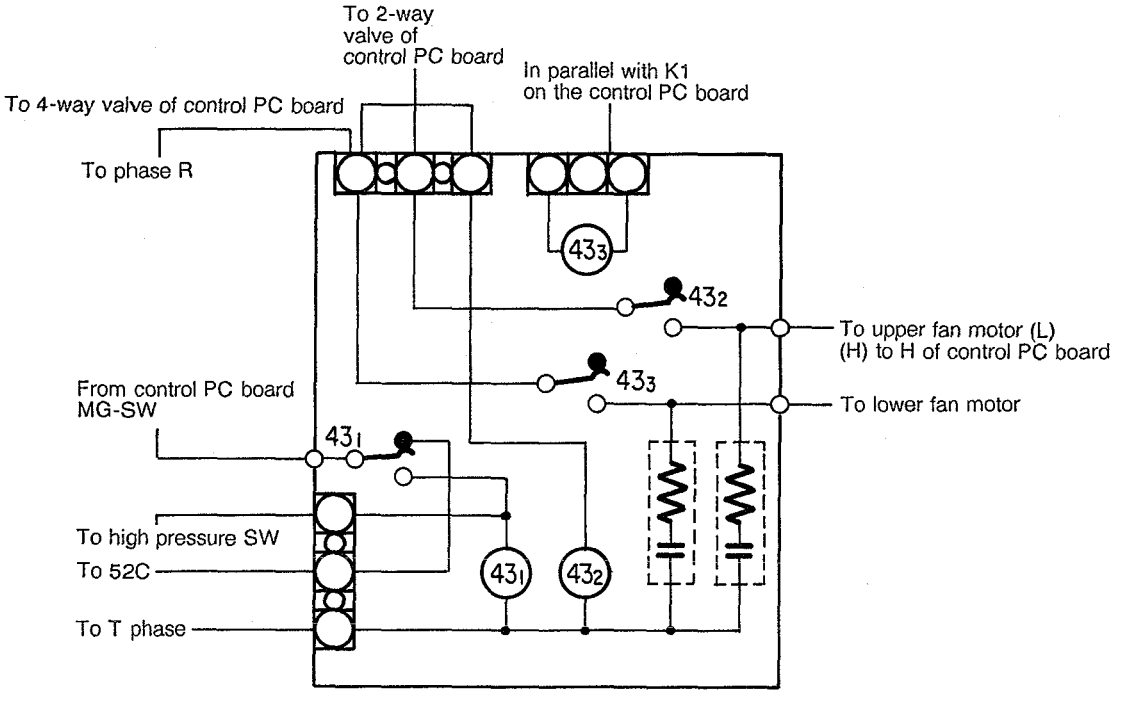
K1: Turning fan on and off (2-way valve)
K2: Changing over H/L of fan
K5: Turning 4-way valve on and off
K7: Turning compressor on and off



10. OPERATION OF RELAY PC BOARD (MCC-1075) (RAV-360AH8-P, 460AH8-P)

10.1 Purpose: Outdoor fan motor control and absorption of power source surging

10.2 Circuit



10.3 Operation

		K1 OUTPUT	MG SW OUTPUT	4-WAY VALVE OUTPUT	2-WAY VALVE OUTPUT	HIGH PRESSURE SW	FAN MOTOR		
		Relay 43_3	Relay 43_1	Relay 43_2	Relay 43_2	Relay 43_1	Upper (H)	Upper (L)	Lower
Cooling	Normal operation	○	○	×	×	×	○	×	○
	High pressure switch operation	×	×	×	○ K101 OFF	○	×	×	×
	Low ambient operation	○	○	×	×	×	× K2 ON	×	×
Heating	Normal operation	○	○	○	×	×	○	×	○
	In the release	×	○	○	Through contact 43_2	×	×	○	×

11. EMERGENCY OPERATION (COOLING OPERATION ONLY)

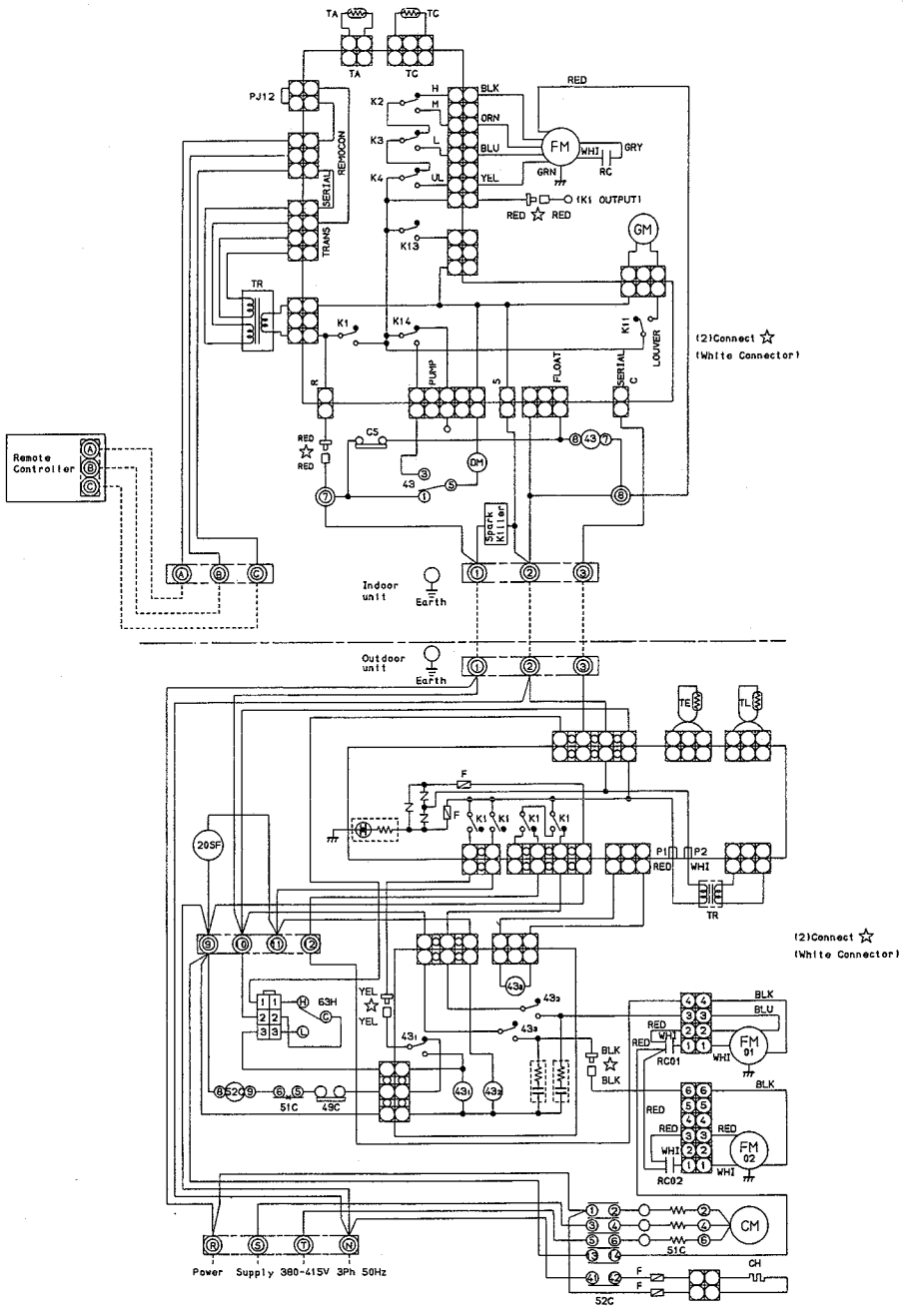
By way of temporary expedient, change-over connectors are incorporated which allow for application of 230V directly to indoor fan motor, outdoor fan motor and magnet switch. Drain pump is operated forcibly by pulling out float switch. In this case, operation and stop is effected by ON/OFF of the power line. (The emergency operation is not provided for heating as it can be substituted by other heating appliances and also because of nonavailability of defrosting approach).

Example 5HP

Counter-measures	Indoor connector	Pull out the connector of R phase (red) lead wire from pin (1) and connect it with the connector of lead wire for fan motor K1 output (red). Pull out the 2P connector of float switch.
	Outdoor connector	Pull out #250 fasten (red) lead wire from pin (12) and connect it with the vacant pin (9). Pull out 1P white connector for lower fan motor and connect it with 1P white connector of pin (12). Take out 1P connectors of yellow lead wire and black lead wire for relay output connectors of control PC board and connect yellow lead from relay PC board P102 with black lead coming from (9).
Operation	Operation and stop by the power switch at hand. (High pressure switch becomes the only protective circuit.)	

For the method, refer to next page.

RAV-360UH-P/360AH8-P
RAV-460UH-P/460AH8-P



◎ shows terminal block and figures show terminal numbers.
Broken lines show wiring at site.

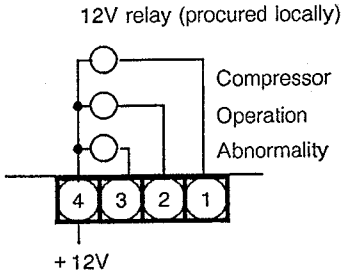
Don't operate the units with the magnetic contactor pushed.

Symbol	Name	Symbol	Name	Symbol	Name
20SF	Solenoid Coil	52C	Magnetic Contactor	TR	Transformer
K_1~K_7	Relay	FM $_{01, 02}$	Fan Motor (Outdoor)	TA	Sensor
49C	Inner Overload Relay	TL	Sensor	TC	Sensor
51C	Overload Relay	TE	Sensor	43	Relay
43	Relay (Outdoor)	F	Fuse	K_1~K_{14}	Relay
63H	High Pressure Switch	TR	Transformer	GM	Geared Motor
CH	Crank Case Heater	FM	Fan Motor	CS	Float Switch
CM	Compressor	RC	Running Capacitor	DM	Drain Motor

12. APPLIED CIRCUIT

(1) Display output (PJ13)

12V output is provided on the indoor PC board for operation display (interlocked with LED), compressor operation display and outdoor abnormality display.



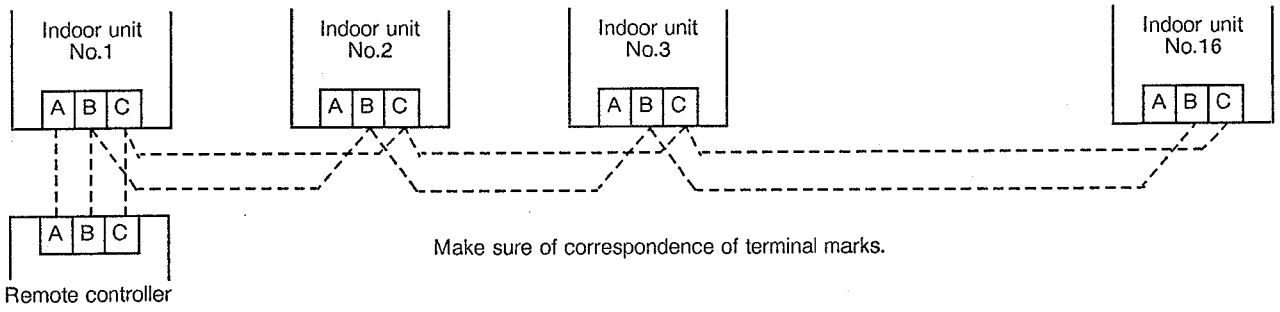
13. WIRING FOR GROUP OPERATION

Up to 16 units can be controlled as a group by one remote controller.

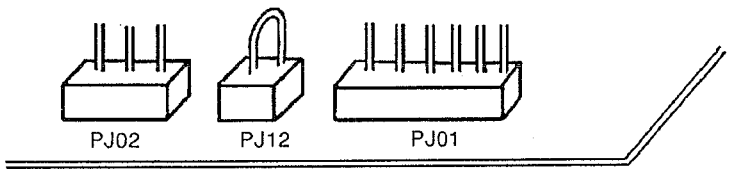
① Align the phase sequence of the power supply to all outdoor units.

② Connect the terminals A, B, C on both of the remote controller and the indoor unit of No.1 unit.

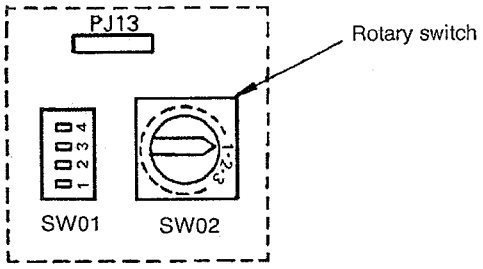
③ Connect terminals B, C on both indoor units of No.1 and No.2 unit. Then connect in the same way No.2 and No.3, No.3 and No.4 .... up to No.16 unit.



④ Remove the PJ12-connector on the indoor PC board of No.2 unit and up to No.16 unit to prevent malfunction.

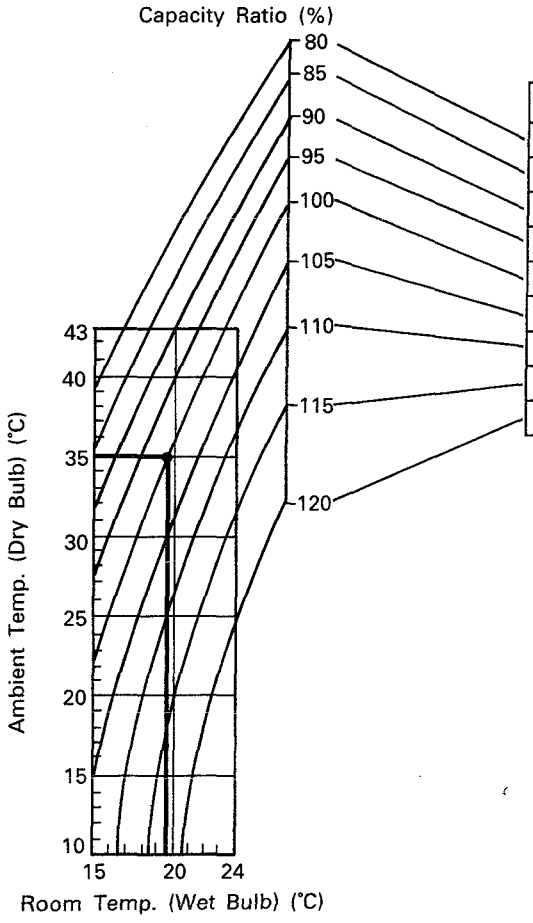


⑤ Set each unit No. rotary switch on the indoor PC board. The unit connected to the remote controller should be set as No.1 unit. Then set No.2 and up to No.16 so that start time of each unit is respectively delayed to prevent simultaneous starting current.



14. PERFORMANCE CHARACTER

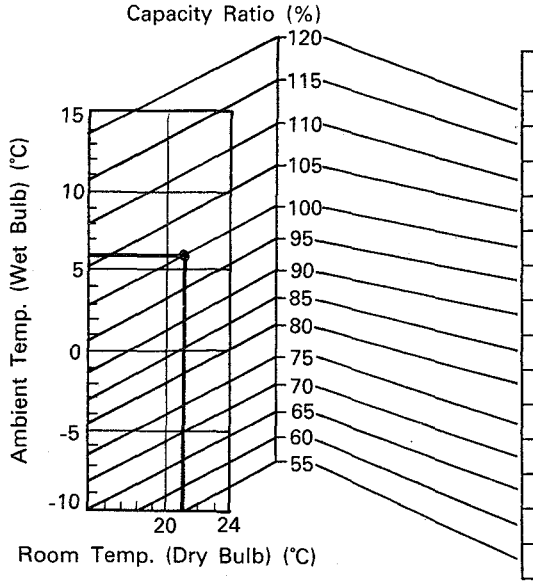
14.1 Cooling capacity



(BTU/h)

RAV-360UH-P	RAV-460UH-P
25,280	32,160
26,860	34,170
28,440	36,180
30,020	38,190
31,600	40,200
33,180	42,210
34,760	44,220
36,340	46,230
37,920	48,240

14.2 Heating capacity

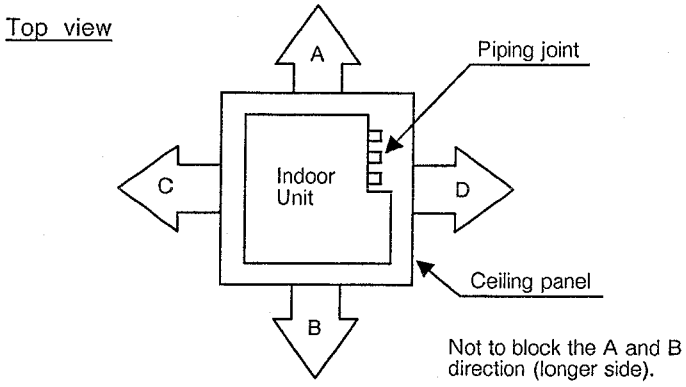


(BTU/h)

RAV-360UH-P	RAV-460UH-P
38,760	51,120
37,150	48,990
35,530	46,860
33,920	44,730
32,300	42,600
30,690	40,470
29,070	38,340
27,460	36,210
25,840	34,080
24,230	31,950
22,610	29,820
21,000	27,690
19,380	25,560
17,770	23,430

14.3 Air flow distribution

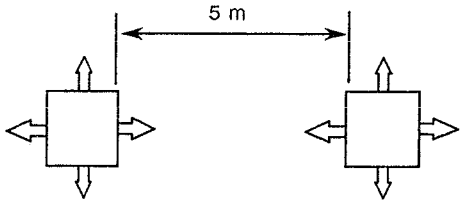
RAV-360UH-P
RAV-460UH-P



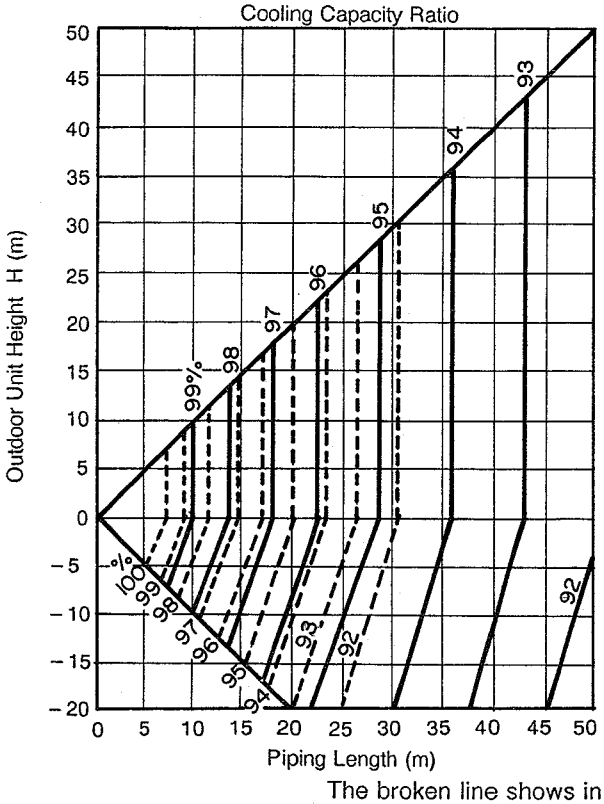
Air flow direction & volume ratio

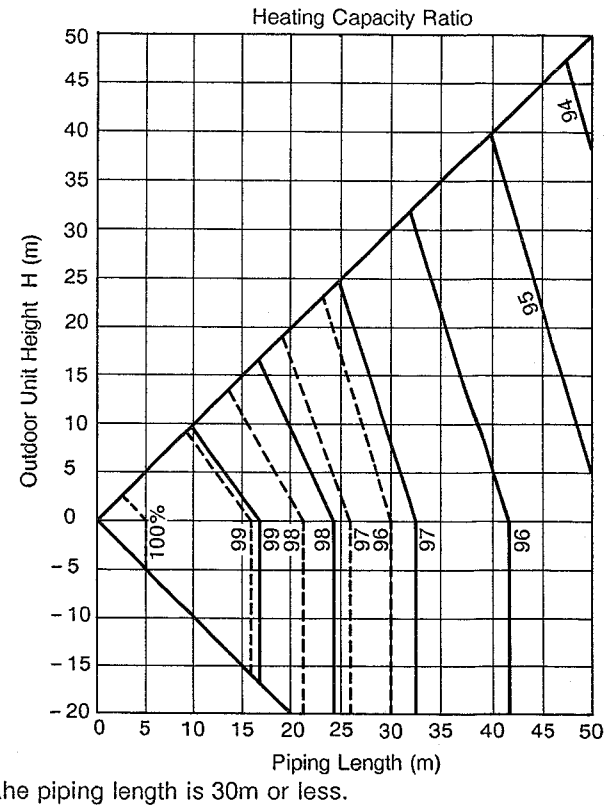
No. of discharge way	4-way				3-way			2-way	
Air flow direction	A	B	C	D	A	B	C	A	B
Air volume ratio (%)	40	40	10	10	40	40	20	50	50

(Note)
Keep 5 m distance between each unit when installing plural units in same room.



14.4 Piping length/cooling capacity/heating capacity





The broken line shows in case the piping length is 30m or less.

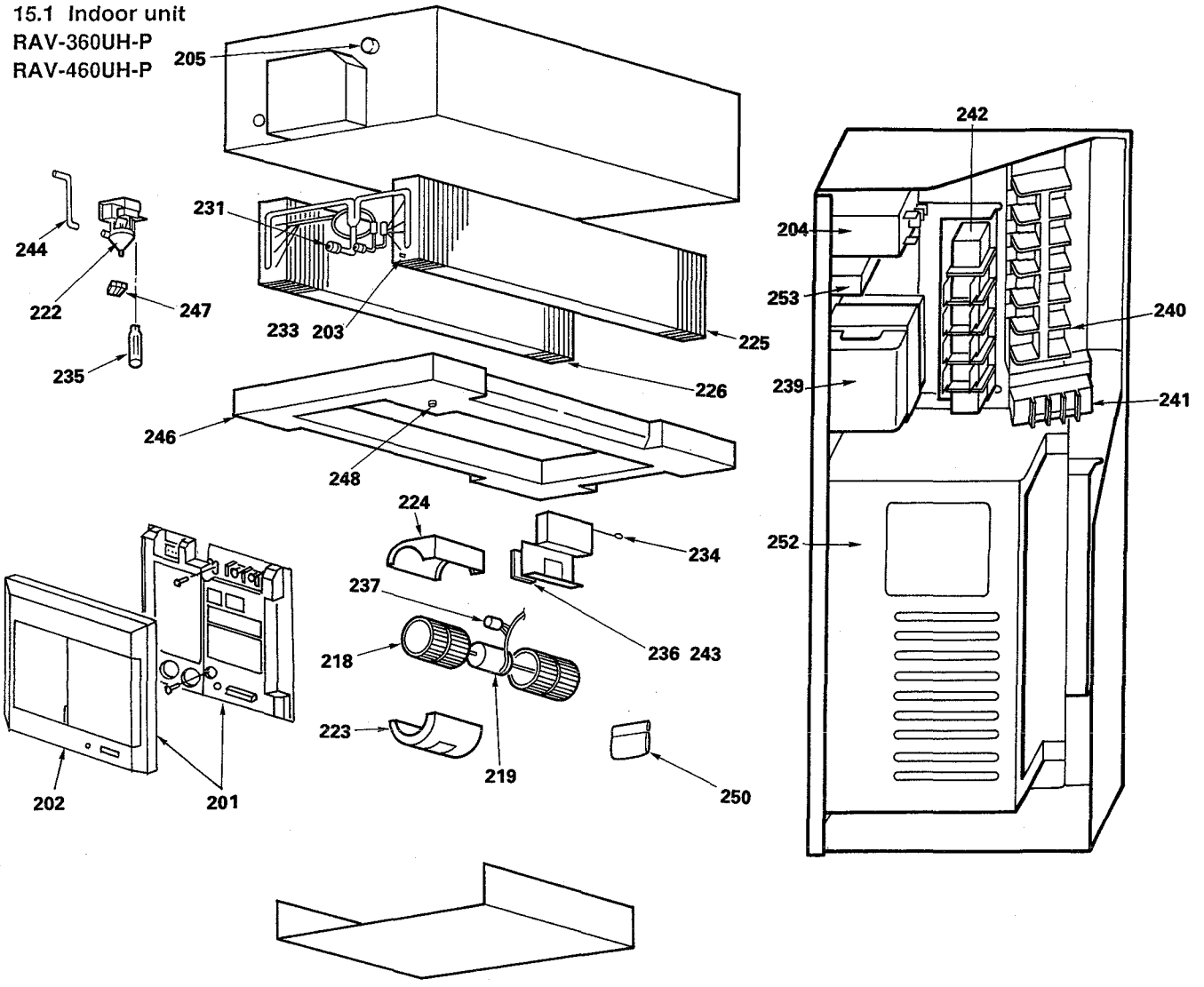
14.5 Piping length/additional refrigerant volume

Model (RAV-) \ Piping length less than (m)	20	Additional amount of refrigerant at installation site (kg)						Recharge amount of interchange time (kg)									
		25	30	35	40	45	50	5	10	15	20	25	30	35	40	45	50
360UH-P	Filled at factory	0.25	0.5	0.75	1.0	1.25	1.5	3.0	3.15	3.15	3.4	3.65	3.9	4.15	4.4	4.65	4.9
460UH-P		0.25	0.5	0.75	1.0	1.25	1.5	3.6	3.7	3.8	3.9	4.15	4.4	4.65	4.9	5.15	5.4

- The amount of refrigerant put into the outdoor unit at the factory is equivalent to the one that fills up 20m length of refrigerant pipe.
- If the length of refrigerant pipe is 20m or less, addition of refrigerant at the installation site is unnecessary. If the length of the pipe exceeds 20m, add the refrigerant R-22.
- Overcharge or undercharge of refrigerant in the outdoor unit will cause malfunction of the compressor. The prescribed amount of the replenishment of the refrigerant is shown in the table above.
  The permissible amount of refrigerant is the prescribed amount ±50g.

15. EXPLODED VIEWS AND PARTS LISTS

15.1 Indoor unit
RAV-360UH-P
RAV-460UH-P

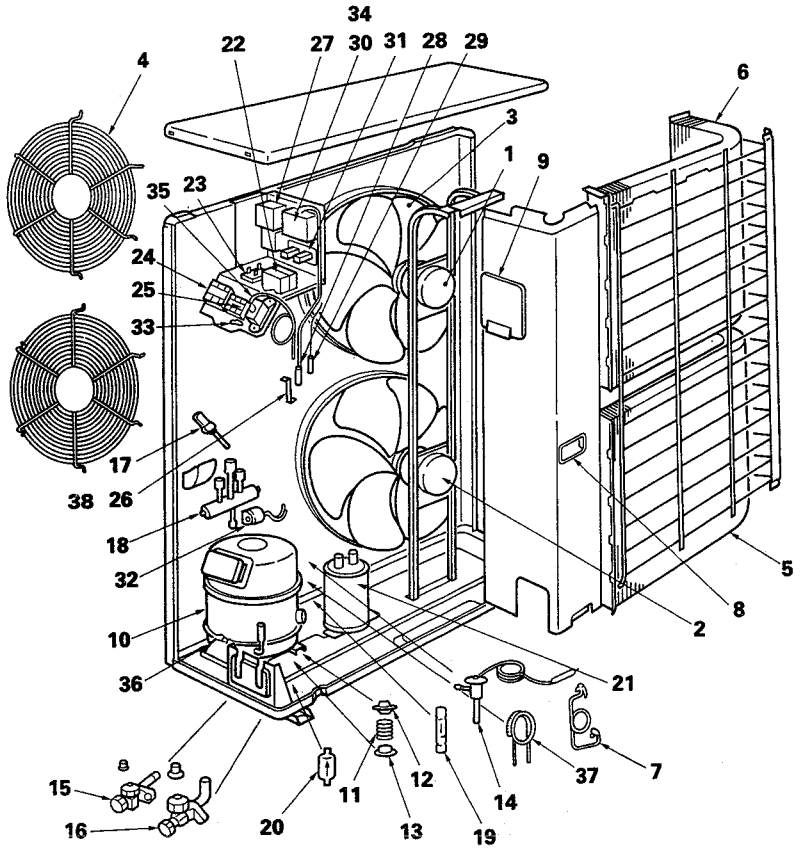


Location No.	Part No.	Description
201	43169462	Remote Controller
202	43162026	Cover, Remocon
203	43019604	Holder, Sensor
204	43154117	Relay
205	43070146	Hose, Drain
218	43120164	Fan, Multi-blade
219	43121495	Motor, Fan (RAV-360UH-P)
219	43121492	Motor, Fan (RAV-460UH-P)
222	43121540	Drain, Pump
223	43126125	Fan Case Lower
224	43126126	Fan Case Upper
225	43144661	Evaporator, Right (RAV-360UH-P)
225	43144660	Evaporator, Right (RAV-460UH-P)
226	43144663	Evaporator, Left (RAV-360UH-P)
226	43144662	Evaporator, Left (RAV-460UH-P)
231	43047527	Capillary Tube 2.0DIA
233	43150111	Sensor
234	43150148	Sensor

Location No.	Part No.	Description
235	43151203	Float Switch
236	43169462	Remote Controller
237	43055292	Capacitor, Electrolytic (RAV-360UH-P)
237	43155048	Capacitor, Electrolytic (RAV-460UH-P)
239	43158113	Trans
240	43060324	Terminal Block, 3P
241	43160372	Terminal Block, 3P
242	43160380	Terminal
243	43162029	Cover
244	43170192	Hose, Drain
246	43172116	Drain Pan
247	43179104	Drain Filter
248	43179105	Plug
250	43188640	Manual
252	43169578	PC Board
253	43033084	Spark-Killer

15.2 Outdoor unit

RAV-360AH8-P
RAV-460AH8-P

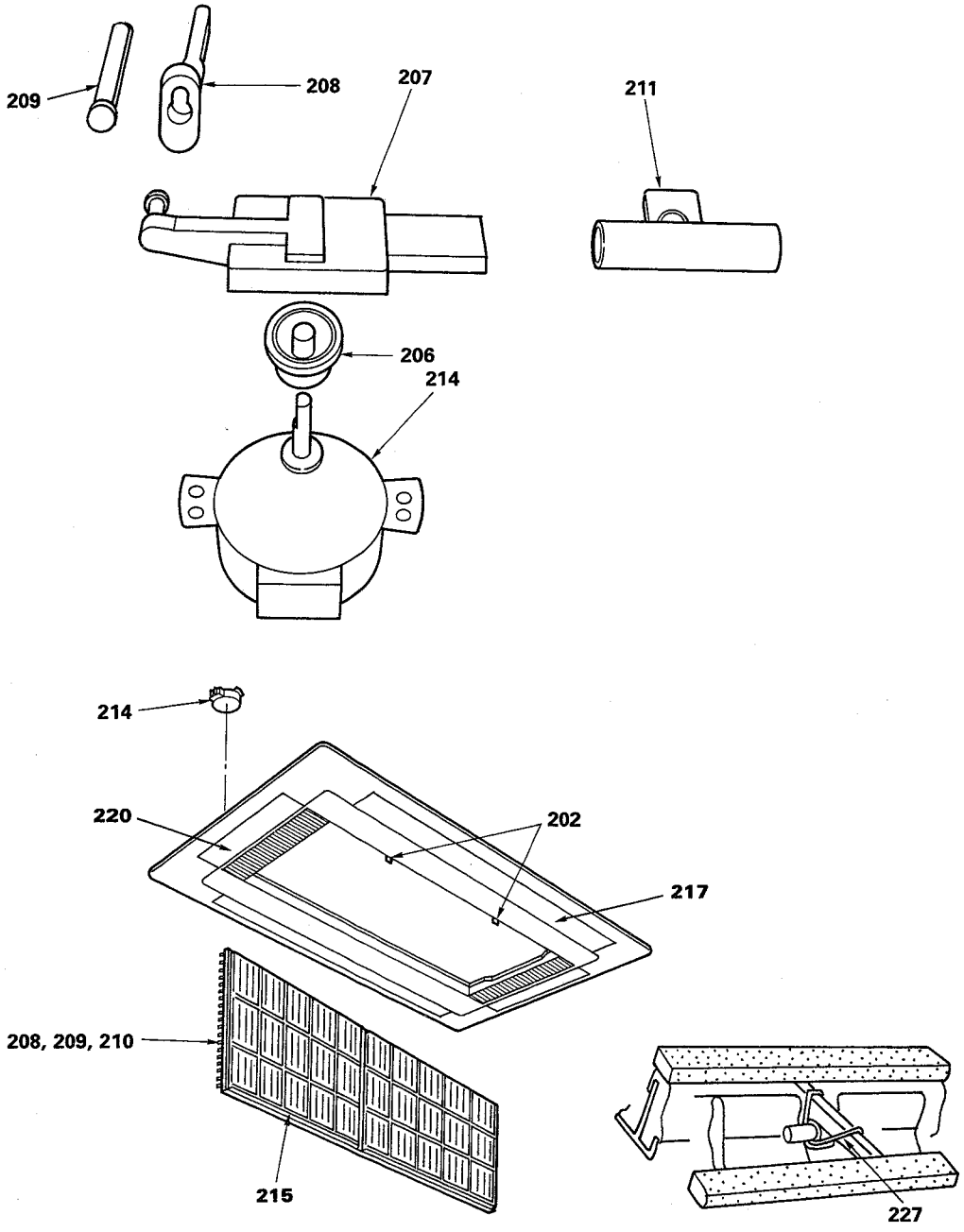


Location No.	Part No.	Description
1	43121463	Motor, AC, 230V, 50Hz, Fan
2	43121464	Motor, AC, 230V, 50Hz, Fan
3	43120129	Fan, Propeller
4	43191252	Guard-Fan
5	43143638	Condenser, Lower (RAV-360AH8-P)
5	43143636	Condenser, Lower (RAV-460AH8-P)
6	43143639	Condenser, Upper (RAV-360AH8-P)
6	43143637	Condenser, Upper (RAV-460AH8-P)
7	43047492	Capillary-Tube (RAV-360AH8-P)
7	43047527	Capillary-Tube (RAV-460AH8-P)
8	43119368	Hanger
9	43162027	Cover, Electric Parts
10	43140404	Compressor, YH406JA
10	43140506	Compressor, YH506JA
11	43149198	Spring, Buffer
12	43149212	Base, Spring, A
13	43049132	Base, Spring, B
14	43146362	Expansion Valve (RAV-360AH8-P)
14	43146438	Expansion Valve (RAV-460AH8-P)
15	43146451	Packed Valve (3/8")
16	43146416	Packed Valve 3/4IN
17	43147321	Check Joint
18	43146468	4-Way Valve (RAV-360AH8-P)
18	43146467	4-Way Valve (RAV-460AH8-P)

Location No.	Part No.	Description
19	43146283	Checked Valve
20	43145092	Dryer
21	43148096	Accumulator (RAV-360AH8-P)
21	43148114	Accumulator (RAV-460AH8-P)
22	43155080	Capacitor, Plastic Film
23	43060479	Terminal Block, 4P
24	43160264	Terminal Block
25	43060324	Terminal Block, 3P
26	43107215	Holder, Sensor
27	43152342	Magnetic Contactor (RAV-360AH8-P)
27	43152343	Magnetic Contactor (RAV-460AH8-P)
28	43150196	Sensor, Heat Exch.
29	43150195	Sensor, Cond. Out
30	43169577	PC Board
31	43169579	PC Board (Relay)
32	43046255	Solenoid Coil
33	43063070	Holder, Cord
34	43163016	Support
35	43146387	Switch-High-Pressure
36	43157140	Heater, Crk, Case
37	43146430	Capillary Tube 2.4ID (RAV-360AH8-P)
37	43146431	Capillary Tube (RAV-460AH8-P)
38	43019604	Holder, Sensor (For Sensor Heat Exch.)

15.3 Ceiling panel

RBC-U460PG(W)-P



Location No.	Part No.	Description
202	43407009	Grille, Catch
206	43407024	Cam
207	43407014	Slider
208	43407015	Lever
209	37507500	Lever
210	43409059	Intake-Grille Assy

Location No.	Part No.	Description
211	43409067	Holder, Shaft
214	43121550	Geard-Motor
215	43480531	Air-Filter
217	43409069	Grille, Outlet
220	43409075	Grille, Outlet, Small
227	43497009	Spring Holder

MEMO